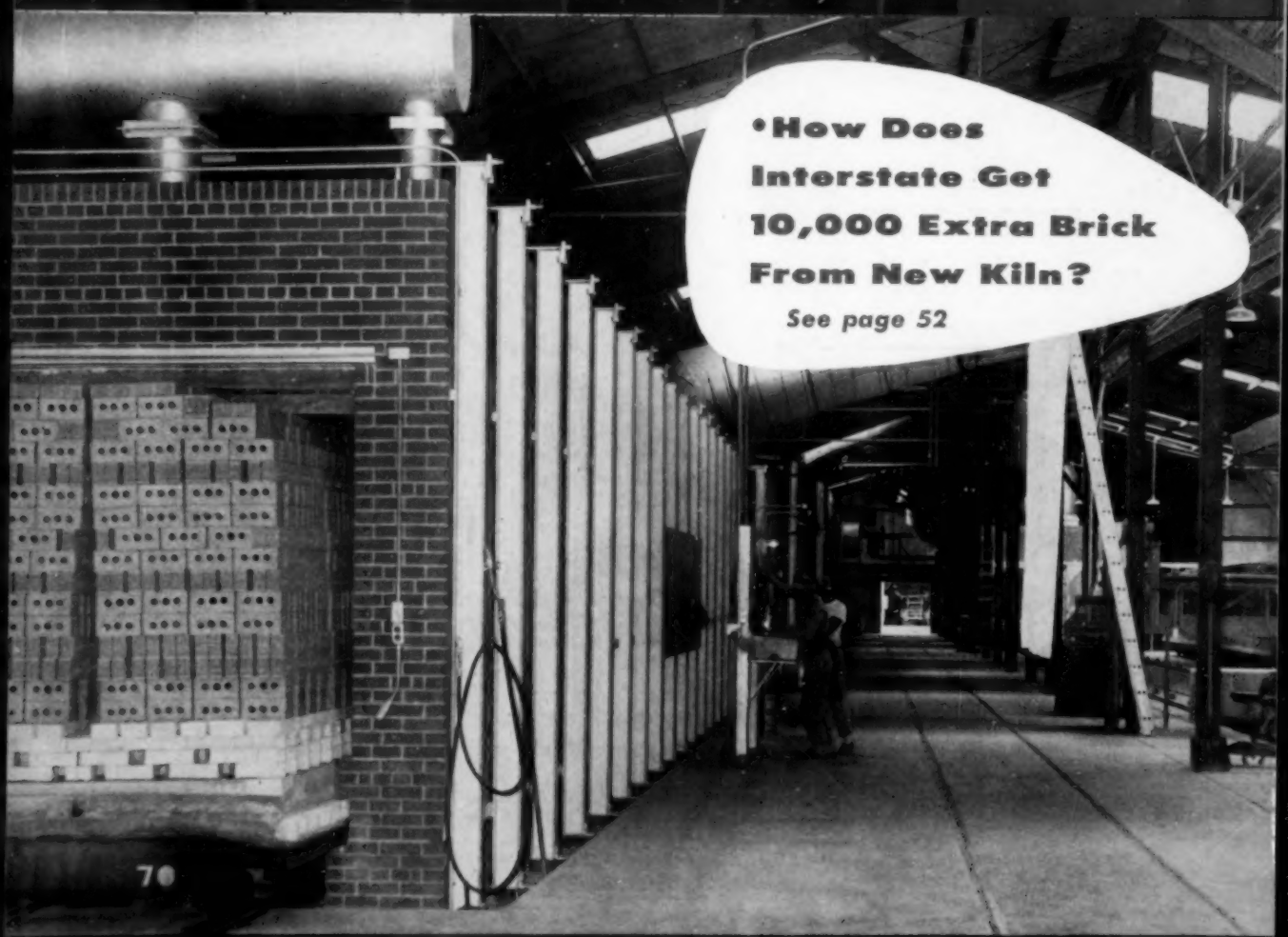
Brick & Clay Record

February
1957

Brick
Refractories
Structural Tile
Sewer Pipe
Drain Tile
Terra Cotta
Roofing Tile
Clay Aggregate



•How Does Interstate Get 10,000 Extra Brick From New Kiln?

See page 52

Are we selling the right way? Jim Lange reports on the changing market for clay products.... **page 48**

A guide to good management. Principles and methods of operation that should be practiced..... **page 63**

70% more business in 1965. Will you be ready for this big opportunity when it comes?..... **page 47**

Get Peak output production from your tunnel. Tips on operation procedures to gain more production and better quality.... **page 56**

12½ TIMES AROUND THE GLOBE!

BONNOT DRY PAN processes raw material for 320,000 miles of tile during 50 years of service at Indiana Drain Tile

For half a century, the Indiana Drain Tile Co., of Brooklyn, Indiana, has operated continuously (except for brief maintenance work) . . . producing quality drain tile, backup tile, partition tile.

Helping to maintain their production is a BONNOT DRY PAN —in operation since the company was founded in 1904. During the 50 years, this rugged machine has processed enough raw material to produce 320,000 miles of 4″ tile alone—sufficient to circle the globe more than 12½ times.

Machine performance such as this certainly means sound designs, superior materials (original and replacement) and quality workmanship. This is why all BONNOT machinery shows **truly low cost to the user when all real costs are counted.**

Why be satisfied with less than the best? BONNOT'S more than 67 years of progressive engineering and practical experience are at your service. Let's talk things over now!

Wouldn't YOU enjoy equivalent equipment service?

STEP AHEAD WITH BONNOT

Crushers	Pug Mills
Hammer Mills	Auger Machines
Dry Pans	Vacuum Machines
Wet Pans	Special Extruders
Grinders	Cutters
Feeders	Represses
Mixers	Dies

Special Machines to Order

Direct Foundry Service

The BONNOT Co.
CANTON 2, OHIO

Rugged Machines for Constant Low Cost Operation—BONNOT'S The Buy

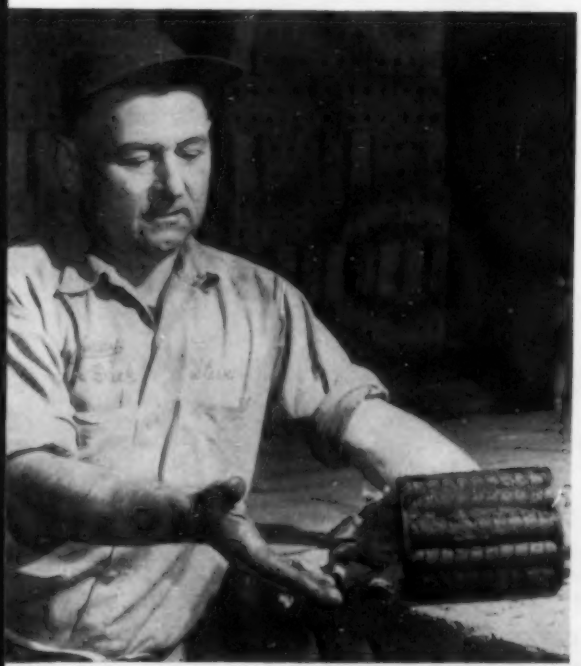
TECHNICAL BULLETIN

BEL-RAY COMPANY, INC.

Madison, New Jersey

BELCO #5016 GREASE

LUBRICATES KILN-CAR BEARINGS AT TEMPERATURES UP TO 1200F



- guaranteed not to carbonize
- does not harden
- forms no decomposition products
- eliminates dripping on tracks
- cuts down pusher ram pressures
- prevents bumper damage
- keeps bearings clean and free
- lasts 3 months between regreasings
- reduces annual lubricant costs

THE WHEEL ABOVE AT LEFT with its clean, free-running bearing was photographed exactly as it came off the jacked-up kiln car. When the picture was taken, this car had been in service 4½ months since other grease residues were cleaned out and bearings lubricated with Belco #5016 Grease. Bearings had received no other care except routine regreasing 3 months after that. The bearing below, by contrast, shows caked solids from a synthetic oil formerly used at the same kiln. This particular bearing had actually been soaked in solvent and partially cleaned off. It had made only a few passes through the kiln before it became clogged with abrasive residue.

BEL-RAY CO., INC. Special Lubricants MADISON, NEW JERSEY

WRITE FOR FREE SAMPLE AND LITERATURE

"Brick & Clay Record is published monthly by Industrial Publications, Inc., 5 S. Wabash Ave., Chicago 3, Ill. Subscription price: U. S. A. and Canada, $5.00 per year; three years, $10.00; Foreign subscription price: $7.00 per year; three years, $15.00. Vol. 130, No. 2. Entered as Second Class Matter January 2, 1911, at the Post Office at Chicago, Ill., under the Act of March 3, 1879. Additional entry at Pontiac, Ill."

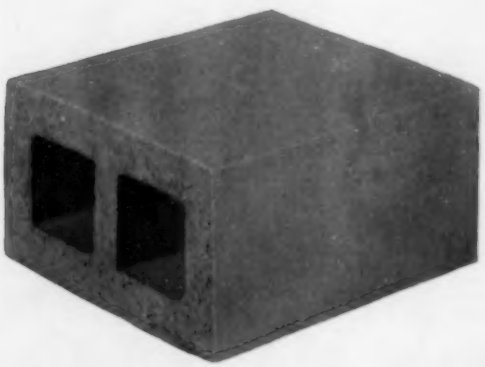
PACO

CAR TOPS

cut replacement cost by as much as 50%!

It's a fact . . . nine out of ten users of PACO CAR TOPS are satisfied customers—and all report replacement savings up to 50%! For the utmost in service, you require a good first quality car top, highly resistant to spalling, and a good hot load test . . . and you get just that when you standardize on PACO.

You and your plant can enjoy these increased savings simply by placing a trial order. There is a PACO engineer as close as your telephone . . . or write us direct for complete information.



Manufactured by

NORTH STATE PYROPHYLLITE COMPANY, INC.

Greensboro, North Carolina, Telephone 4-7055

OTHER PACO PRODUCTS INCLUDE: • PACO PLASTIC • PACOCAST • PACO H.T. CEMENTS • PACO FIRE BRICK MORTAR • PACO SIDE CAR BRICK • PACO FIRE BRICK • PACO LADLE LINING • PACO HEATZONE COMPOUND

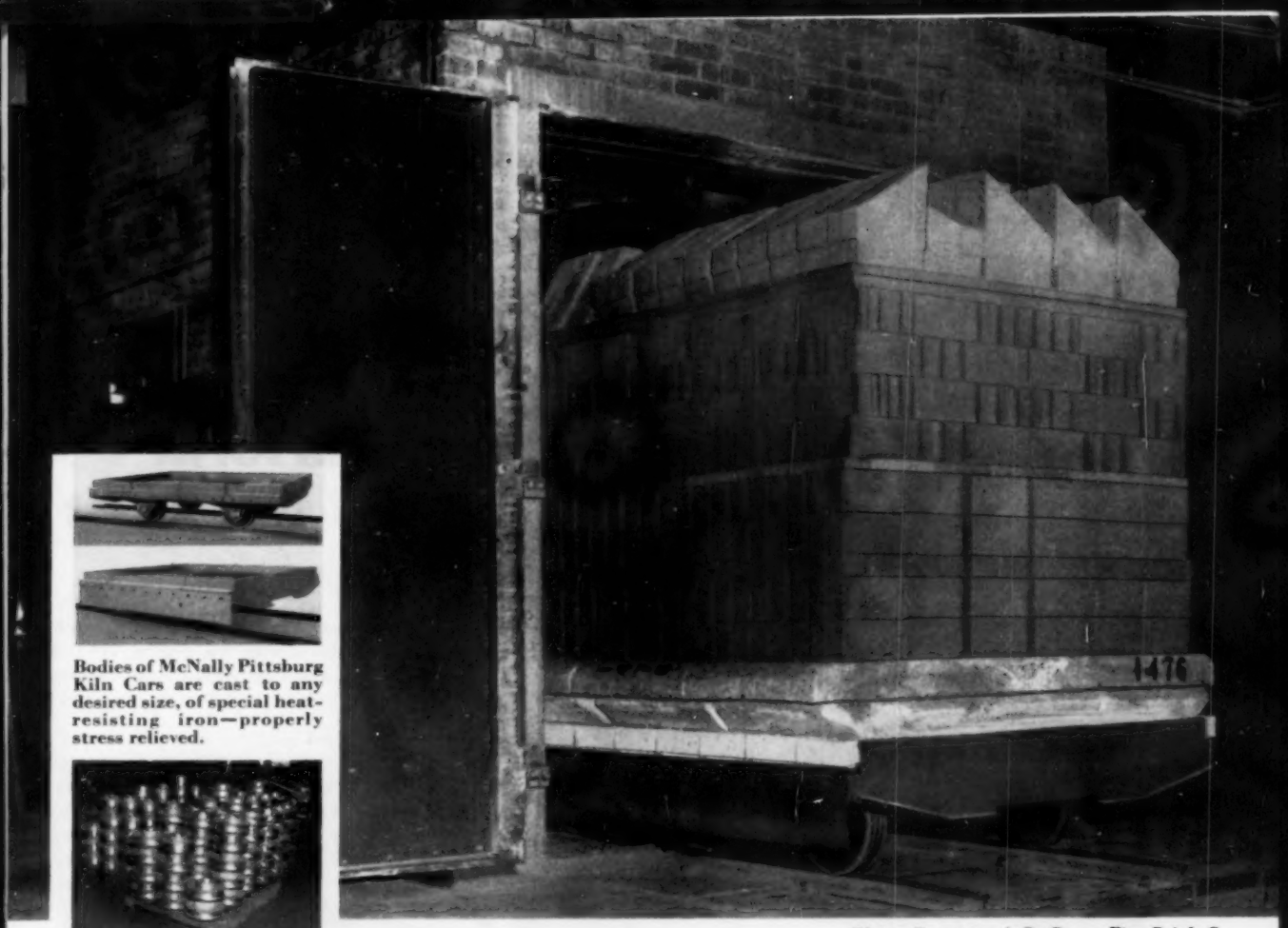
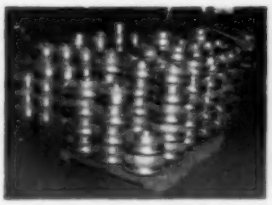


Photo Courtesy A. P. Green Fire Brick Co.

Bodies of McNally Pittsburg Kiln Cars are cast to any desired size, of special heat-resisting iron—properly stress relieved.



MacAlloy wheels, double-flanged one side, straight-faced other side—keep cars on track.

No lubricant needed on these cold-rolled steel axles —easily cleaned by compressed air.

What makes these Kiln Cars Stay in Service So Much Longer?

Here's where years of experience in designing and building equipment for the basic industries can HELP YOU CUT COSTS. Here are kiln cars engineered of special heat-resistant iron normalized by proper stress relieving—for longer life—fewer costly work stoppages.

Built to your specifications, McNally Pittsburg Kiln Cars feature exclusive MacAlloy iron—stress relieved—special bearings protected for long service. Investigate these engineered kiln cars. Mail coupon.

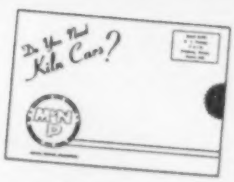
"Ask the men who know"—McNally Pittsburg Manufacturing Corp.

Other McNally Equipment

- Bevel crown gears
- Bevel crown gear pinions
- Muller wheels
- Muller tires
- Muller track plates
- Muller shafts
- Manual clutches
- Plow holders
- Swivel plates for plows
- Screen arms
- Screen plates (round and slotted holes)
- Screen plows
- All types of sleeves and bushings for dry pans
- Kilns
- Damper rings
- Damper ring covers
- Pug Mills
- Pug Mill shells
- Pug Mill shafts
- Pug Mill knives
- Pug Mill dies
- Drain tile dies
- Bushings for tile presses
- Brick machine dies
- Feeders
- Brick transfer car wheels and axles
- Conveyors, belt, scraper, apron
- Pinions, gears, sprockets, shafts, axles, and other parts to your specifications

GET THIS FREE BROCHURE AND SPECIAL INFORMATION

McNally Pittsburg Mfg. Corp., Dept. B
Pittsburg, Kansas



Please send information and illustrated folder on McNally Pittsburg Kiln Cars.

☐ Information on other listed items:_____

Name_____ Title_____

Company_____

City and State_____

LOOK UNDER THE HOOD.....see the reason ALLIS-CHALMERS fork trucks outperform from the start

No matter how you look at it, fork truck performance starts with the engine. That's why you can expect an Allis-Chalmers fork truck to outperform *right from the start.*

Allis-Chalmers engines are real heavy-duty, industrial-type — the strongest and most rugged used in a fork truck. Every part is built to exceed maximum wear and stress expectancy, putting thousands of extra work hours into Allis-Chalmers fork trucks—keeping them on the job.

But durability is only part of the story. Compare an Allis-Chalmers fork truck in material moved per hour and you will quickly see what an engine with extra usable torque and responsive acceleration can contribute. Here is power to outproduce!

Like the entire truck, Allis-Chalmers engines are built for quick servicing, too, and are so simple to repair they can be completely overhauled *without removal from the truck.*

Since Allis-Chalmers builds its own engines, (gasoline, diesel and gas), they are interchangeable in the trucks — and you will find an amazing 85 percent parts interchangeability.

Send for literature, or ask your Allis-Chalmers material handling dealer to tell you more about this power to outperform — plus the other outstanding features of Allis-Chalmers fork trucks.

MATERIAL HANDLING DEPARTMENT, BUDA DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS

BH-38

New Vitro Pinks

Especially formulated for structural clay products

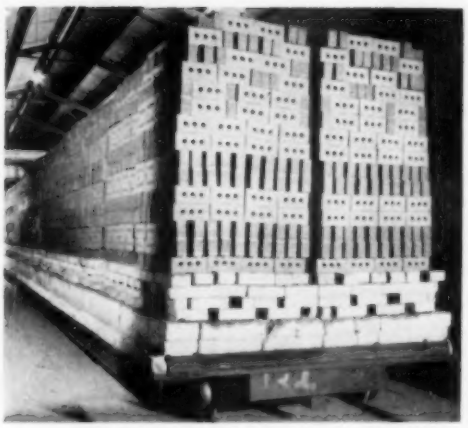
These brand new Chrome Alumina Pinks by Vitro may well be just what you need to make your ware more salable—and more profitable. They're strong, easy to apply, extremely stable to Cone 12, and provide true color values without brown spots. Yet, they're low in cost, unequaled for economy. Too, these superior Vitro Pinks are perfect for obtaining beautiful tints at reduced percentages and can be readily blended with other colors to produce a host of attractive shades. We'll be glad to supply details, without obligation, and furnish samples for you to try in your own glaze.

VITRO MANUFACTURING CO.
A Division of Vitro Corporation of America
60 GREENWAY DRIVE, PITTSBURGH 4, PA.

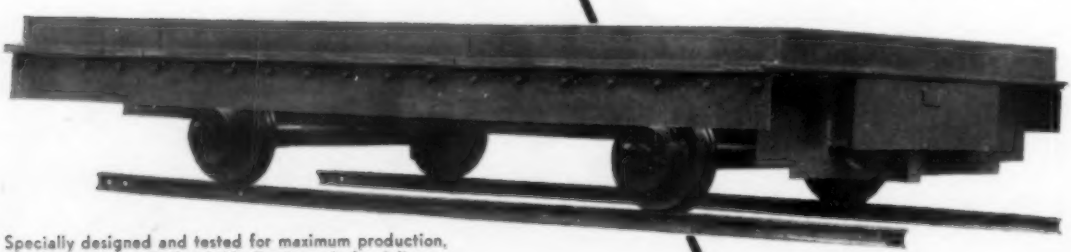
West Coast Plant: 1625 West El Segundo Boulevard
Compton, California

Colors by **Vitro**

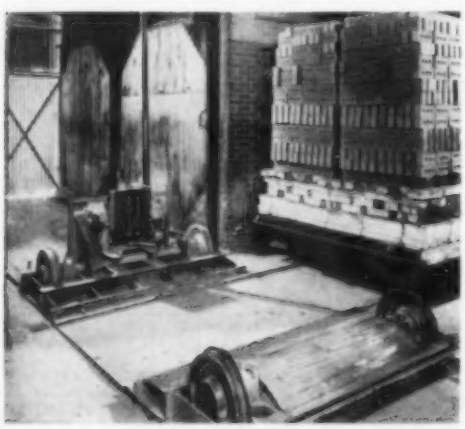
Long on production short on maintenance costs



Pictured here is a row of Greenville Steel Kiln Cars loaded with green brick and ready for the kiln.



Specially designed and tested for maximum production, the above Greenville Steel Kiln Car is ready for delivery.



Greenville Steel Transfer Car with two-speed electric drive handles loaded kiln cars on the production line where seconds mean dollars.

. . . Greenville Steel Kiln Cars

For conveying bricks through your continuous kiln without fear of breakdown or lost motion . . . use Greenville Steel kiln cars and transfer cars.

- Built to your exact specifications
- Heavy duty, all steel cars
- Trouble-free, cast iron wheels
- Perfectly balanced and friction-free
- Built at lower cost for you

In one test plant, over 150 Greenville Steel Kiln Cars have been in continuous operation for more than a year and a half without loss of production time due to breakdown or maintenance. Greenville Steel's exclusively designed transfer cars, with two-speed drive, make handling of loaded kiln cars faster.

Write, wire, or phone Greenville Steel and Foundry Co. today concerning your kiln and transfer car needs.

GREENVILLE *Steel and Foundry Co.*

PHONE 5-0461, WADE HAMPTON BOULEVARD
P. O. BOX 1199, GREENVILLE, SOUTH CAROLINA

LETTERS To the Editor

Depletion Review

Editor, BRICK & CLAY RECORD — We found your article on Depletion by Ken Dunwody in the January issue (page 87) most interesting and were wondering if it would be possible to get reprints. We would like a dozen copies if possible. . . .

Earl Hermes
Sapulpa Brick & Tile Corp.
Sapulpa, Okla.

Ed. Note: Yes, it is possible to get reprints of this article on an issue vital to all clay products people. The reprints for Mr. Hermes are being arranged . . . if any other readers are interested, please write the editor. And by the way congratulations to Sapulpa B&T for winning their depletion decision, as reported in a news note with the Dunwody article.

Editor, BRICK & CLAY RECORD—As a subscriber to BRICK & CLAY RECORD, we were particularly interested in the article appearing in the January, 1957 issue regarding "percentage depletion." Would you please forward us six additional copies of the magazine and bill us accordingly.

Hazel C. Cooke, Ass't Sec'y
General Clay Products Co.
Columbus, Ohio

45 Years with BCR

Editor, BRICK & CLAY RECORD — I get lonesome to read (BRICK & CLAY RECORD); have been reading them for 45 years until the past two years.

R. R. Royer
Bradenton, Fla.

Ed. Note: A former foreman for the Coffeyville, Kans., Ludowici-Celadon plant and for 20 years with Alliance (Ohio) Clay Products, Royer is now retired on a pension. He says he might take a burning job again "as I am in good condition" and told us other news of himself, which inspired us to wonder who is the man in the industry who's been reading BCR for the most years? Royer has 45 years with BCR till his retirement; can anyone top this?

Shalite Plant

Editor, BRICK & CLAY RECORD — We were very much pleased with your article (Nov., p. 40) on our Shalite plant and we have had a number of compliments on it.

D. M. Groves, Sec'ty.-Treas.
Shalite Corp.
Knoxville, Tenn.

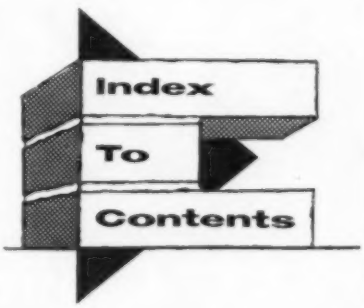
Robson Series

Editor, BRICK & CLAY RECORD — If there are reprints available of the article "How To Solve Firing Problems" by Dr. J. T. Robson, I would appreciate it if you would forward a copy to the undersigned. The series began in October, 1955 and if reprints are not available, will you please send tear sheets.

Evelyn Hunt, Librarian
Harbison-Walker Refractories Co.
Pittsburgh 22, Pa.

(Ed. Note: For the information of Miss Hunt and others who would like copies of this series of articles, all were excerpts from Robson's book "Operating The Tunnel Kiln." The entire book is available from the BCR Book Dept. for $8.00 a copy.)

(Continued on page 71)



70% MORE BUSINESS
Business leaders predict this increase by 1965 . . . will you be ready? 47
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Always gives quick, sure, accurate temperatures. Self-contained and direct-reading. Stock ranges 1400°F to 7200°F.

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Just press a button for instant, accurate spot temperatures. No thermocouples, lead wires, or accessories needed! Stock ranges 1000°F to 3400°F.

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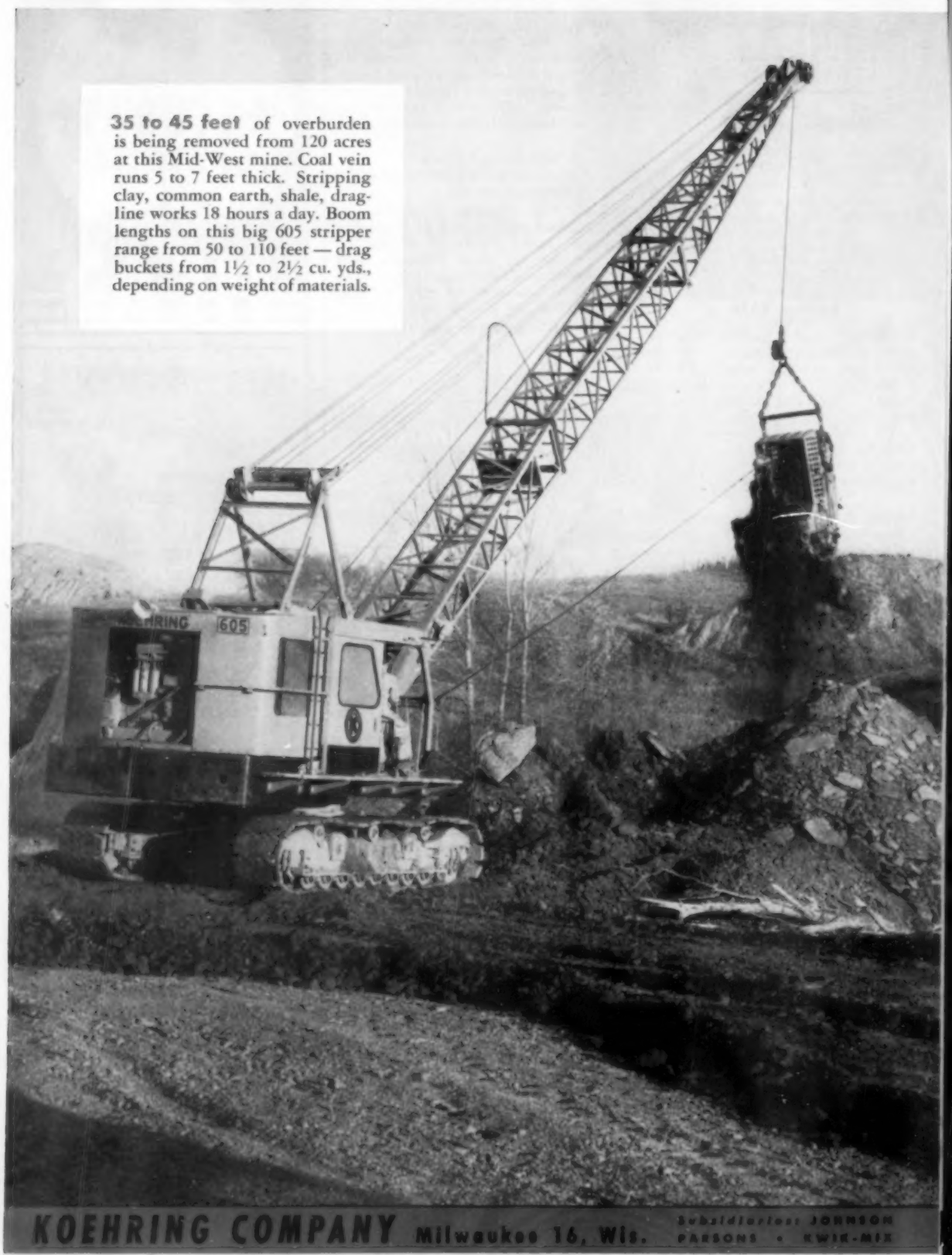
PYROMETER INSTRUMENT CO., INC.
BERGENFIELD 15, NEW JERSEY

KOEHRING WORK CAPACITY *in action . . .*



35 to 45 feet of overburden is being removed from 120 acres at this Mid-West mine. Coal vein runs 5 to 7 feet thick. Stripping clay, common earth, shale, dragline works 18 hours a day. Boom lengths on this big 605 stripper range from 50 to 110 feet — drag buckets from 1½ to 2½ cu. yds., depending on weight of materials.

KOEHRING COMPANY Milwaukee 16, Wis. Subsidiaries: JOHNSON · PARSONS · KWIK-MIX

Meet the 405 — new heavy-duty leader in the 1-yard class. Operators like its ease of control, big power clutch, automatic traction brakes, and simple 2-shaft design of upper machinery. *You'll* like its big work capacity with all attachments: 1-yard shovel or hoe, 1 to 1½-yard clam or dragline, 20-ton crane.

Pan-handler — In an Eastern quarry, slabs of sandstone are palletized on pans for quick pick-up, and loaded on trucks. Pans weigh an average of 3½ tons — an easy lift for the Koehring 205 truck crane. Constantly moving to various piles around the quarry, it easily loads 24 pans an hour, according to quarry foreman. With this mobile 205 crane they are equipped to handle loads up to 15 tons.

At rail siding, 305 clamshell crane speeds transfer of material from gondola cars to trucks. Its fast swing and wide work radius pay off on any material-handling. This heavy-duty 305 is another in a modern, new series of Koehring extra-capacity excavators and cranes. Look them over. They're all listed in accompanying chart.

Here are some figures that will interest you:

KOEHRING MODEL	SIZE DIPPER	LIFT CAPACITIES (Crawler ratings based on 75% of tipping load. Rubber-tired machines — 85% of tipping load.)	
205 CRAWLER	½-Yd.	20,000 lbs.	at 10-foot radius
205 ON RUBBER	½-Yd.	30,000 lbs. 13,700 lbs.	at 12-foot radius at 20-foot radius
305 CRAWLER	¾-Yd.	30,000 lbs.	at 12-foot radius
305 ON RUBBER	¾-Yd.	50,000 lbs. 15,800 lbs.	at 10-foot radius at 30-foot radius
405 CRAWLER	1-Yd.	40,000 lbs.	at 12-foot radius
605 CRAWLER	1½-Yds.	72,300 lbs.	at 12-foot radius
1205 CRAWLER	3-Yds.	190,000 lbs.	at 13-foot radius

KOEHRING HEAVY DUTY

Want more information? Call Koehring distributor today.

MASONRY MANUFACTURERS! *When you're going after new construction business, you need more than the right bait — You need to know where to drop your line...*

We help you pick the right pond

just looking anywhere is a costly way to find business—the best, economical way is to be at the right place at the right time. If you want to know what jobs are coming up and when, then mail this coupon today.

TO: **DODGE REPORTS**, 119 WEST 40th STREET, DEPT. 40, NEW YORK 18, N. Y.

Yes! I'd like to pin-point my prospects by knowing in advance who's going to build, what, when, where.

I want to know whom to contact and when to submit bids.

I'd like to see some Dodge Reports and I'd like a copy of your booklet that tells how to use this accurate, daily, up-to-the-minute construction news service.

I understand that I can pick just the area and type of construction activity that interests me. Also, that I won't have to wade through mounds of data to find the information I need.

I'm interested in General Building ☐ **House Construction** ☐ **Engineering (Heavy Construction)** ☐

in the Following Area: _____

NAME _____

ADDRESS _____

CITY _____ **ZONE** _____ **STATE** _____

Dodge Reports
For Timed Selling to the Construction Industry

BAKER announces an ALL NEW PNEUMATIC-TIRED FORK TRUCK

Trail Axle
Double-yoke construction for extra strength. Longitudinal mounting in jumbo rubber blocks to provide lateral oscillation and absorb ground shocks.

Power Unit
Heavy-duty industrial gas engine with extra stamina for continuous rugged service. Features maximum fuel economy—minimum maintenance.

Power Steering
Standard at no extra cost. Effortless full-time power steering means less operator fatigue, greater safety and more work per day.

Lift and Tilt Controls
Conveniently located and easily manipulated levers for positive control of hydraulically-operated hoist and tilt motions.

Drive Axle & Transmission
Rugged Timken industrial truck axle and heavy-duty transmission, with two speeds, forward and reverse.

Single or Dual Wheels
Large pneumatic tires on drive wheels, with deep treads for maximum traction. Dual wheels available for extra heavy duty, better flotation and added stability.

Brakes—Hydraulic self-energizing, full-floating type—in drive wheels. Self energizing in both forward and reverse. Duo-grip, two-shoe independent parking brake on transmission shaft.

This Baker FGF-40, 4,000-lb. YARDLOADER, first in the new line of Baker pneumatic-tired gas fork trucks, has many new design features for greater maneuverability and more dependable performance. It is *fast*—top speed with load, 8.6 mph. It is *compact*—only 48 inch wheelbase, and minimum overhang—*and only 79 inch turning radius.* Low center of gravity makes this possible without sacrificing stability.

Absence of cowl provides maximum visibility. Power brakes and many other driver conveniences make it one of the easiest handling fork trucks—and one of the safest. Full 130-inch lift, with single or dual cylinder. Truck-loading mast available with 110-inch lift and 71-inch overall height . . . For complete information ask for Bulletin 1382.

Baker® industrial trucks

THE BAKER-RAULANG COMPANY
1271 WEST 80th STREET • CLEVELAND 2, OHIO
A Subsidiary of Otis Elevator Company

Materials Equipment Services

STANLEY STRAPPING—The Uni-Pac does away with piece-by-piece handling, makes it possible to move, store, load and ship your products faster, safer, and cheaper. Stanley Steel Strapping Div., New Britain, Conn.
200/Circle on Reader's Service Coupon

HARROP KILNS—A new, third Harrop installation at Key-James Brick took only 72 days from construction start to first-quality brick production. Current production is in excess of 50,000 brick daily. Harrop engineers will help plan your installation to get the best quality from your clay in the volume you require with economies in handling and fuel. Harrop Ceramic Service Co., Columbus, Ohio.
201/Circle on Reader's Service Coupon

SCREEN SECTIONS—Screen sections of Tyler woven wire are fabricated for all makes of vibrating screens in any mesh or metal. They are made with hook-strip or bent-edge construction to suit the machine on which they are to be used. The W. S. Tyler Co., Cleveland 14, Ohio.
202/Circle on Reader's Service Coupon

REAR-DUMP—The Tournapull Rear-Dump hauler hitches front and rear wheels through a horizontal yoke extending back from the kingpin and pivoted to the body just above and ahead of the rear wheels, giving simpler, stronger body . . . no frame or sub-frame to get out of line. Construction uses no frame, hydraulics, drive-shaft, springs, tie rods. Sizes to fit your needs. LeTourneau-Westinghouse Co., Peoria, Ill.
203/Circle on Reader's Service Coupon

BRICK CHIPPER—Eliminates slow, inaccurate hammer-and-chisel methods, reportedly increasing profit by cutting labor and hidden costs. Is said to rockface an average of 1250 bricks per hour. Also salvages many defective brick. Prices and specifications on request. Rockfacer Co., Mesquite, Texas.
204/Circle on Reader's Service Coupon

TOWMOTOR—lift trucks enable your men to do a bigger day's work easier, permits each one of handle jobs you'd pay a crew to do. First time features include fatigue-free adjustable seating, motion-saving centralized control, maximum free lift, no-loss hydraulic lifting action, and power steering. Towmotor Corp., Cleveland 10, Ohio.
205/Circle on Reader's Service Coupon

SCREEN HEATERS—Hannon reports extra tonnage with Hanco electric screen heaters. Units have quick change attachments that can be quickly installed and adapted to new or existing screen installations. Exclusive screen tensioning device replaces existing parts. F. R. Hannon & Sons, Canton 7, Ohio.
206/Circle on Reader's Service Coupon

VARIABLE SPEED DRIVE—By simply turning an adjusting screw on either side of the sheave, both flanges move simultaneously and speed changes are obtained quickly and easily. Positive clamping of the two adjustable flanges eliminates fretting corrosion. Single wide range belt for motors 5 to 20 horsepower provides speed range ratios up to 3 to 1. No lubrication, less shaft overhang, sensibly priced and economical in operation. T. B. Wood's Sons Co., Chambersburg, Pa.
207/Circle on Reader's Service Coupon

FANS—To meet each of your air handling problems, for grinding department, drying, tunnel or periodic kilns, made by Robinson. Company engineers have years of experience in solving clay plant air problems. Robinson Ventilating Co., Zelienople, Pa.
208/Circle on Reader's Service Coupon

V-BELTS — The concave sides of every Gates V-belt are a precisely engineered curve. This curve lengthens belt life for this reason: as the belt is bent around a sheave, the concave sides become straight. The belt makes full contact with the sheave, gripping the sides evenly and wear is distributed uniformly across the sidewalls of the belt. This uniform wear saves replacement costs. Gates Rubber Co., Denver Colo.
209/Circle on Reader's Service Coupon

TON-TEX BELTS—Recommended for use with brick cutting machines is the Ton-Tex Oil-Ex belt, a tough, durable belt that is resistant to oils, water, heat and abrasion; has minimum shrinkage and stretch. Ton-Tex Corp., Grand Rapids, 2, Mich.
210/Circle on Reader's Service Coupon

SUPERLITE UNLOADERS—at Lovell Clay Products have enabled customers as far away as 450 miles to order brick at 3:00 P.M. and have it on the job before 8:00 the next morning. Two men can load 8,800 brick in just 30 minutes . . . compared to four or five men taking two hours to load the same amount by hand. The driver can unload at the job site in an hour. Builders Equipment Co., 3810 N. Central Ave., Phoenix, Ariz.
211/Circle on Reader's Service Coupon

PLANT ENGINEERING — Material, labor and engineering for modernization, additions and complete plants for the brick and tile industry is provided by Ceramic Building & Equipment, for a fixed price. Ceramic Building & Equipment Co., Hoisington, Kans.
212/Circle on Reader's Service Coupon

BICKERSTAFF — Forks are saving Texas brick men and others thousands of dollars in man-hours of labor and down time for drawing and setting kilns. Usable in round, scove or up-draft, or tunnel kilns. Regardless of what size brick package you use, a Bickerstaff fork can be designed for your individual need. Bickerstaff Inc., Columbus, Ga.
213/Circle on Reader's Service Coupon

MANGANESE—Turn buff and light clays into gray . . . flash red clays to dark reds, blacks and gun metal shades. The demand is increasing for gray brick and richer dark red shades. National Paint & Manganese Co., Lynchburg, Va.
214/Circle on Reader's Service Coupon

DRY PANS—A new series of dry pans and rim discharge grinders in 9 and 10-foot sizes has been introduced by Toronto Foundry. Features of special interest include: knee-action mullers that save space and keep the entire interior of the pan open for introduction of material; an underdriven arrangement which leaves uncluttered open top design for ease in changing mullers; a rotating false bottom; additional screening area; and reversible pans. Toronto Foundry & Machine Co., Toronto, Ohio.
215/Circle on Reader's Service Coupon

BONNOT MACHINERY—Custom-tailored to your raw material and product needs with nearly 70 years of production experience adds up to less down time and reduced maintenance expense. Engineering features such as consolidated gearing yet with separate clutch controls for pug mills and augers save trouble and improve production. The Bonnot Co., Canton 2, Ohio.
216/Circle on Reader's Service Coupon

KILN CAR WHEEL—Sanford-Day has developed an improved kiln car wheel which they report runs free and easy; uses new, improved lubricant; stops high cost maintenance. Henderson Clay Products reports that lubricant is added only three times a year; that a loaded car can be pushed with one hand. Sanford-Day Iron Works, Knoxville, Tenn.
217/Circle on Reader's Service Coupon

HAMMER MILLS—You can grind bank run clay and shale to burning size in one operation with Williams heavy duty hammer mills. No dry pan is necessary. Advantages are faster, finer grinding; heavy rib-reinforced construction; manganese steel liners and breaker plates; double-duty hammers. Williams Patent Crusher & Pulverizer Co., St. Louis 6, Mo.
218/Circle on Reader's Service Coupon

DRILLING — Samples can be obtained from depths up to 100 feet with the Parmanco model HV-172 hydraulic vertical drill. The heavy duty drill features four speed auger, finger tip control, 65 h.p. motor, all drives mounted on Timken roller bearings; three leveling jacks to insure straight holes. Paris Mfg. Co., Paris, Ill.
219/Circle on Reader's Service Coupon

HEATED SCREENS—Stop blinding and speed production. For economy of operation Simplicity heated units employ end to end application of current. High resistance and uniform distribution of heat over the entire screen surface with lower operating current results. Fully balanced, high speed, short stroke assembly provides equal vibration over the entire deck area. Transformers are dust-tight with overload switches to prevent burning out. Simplicity Engineering Co., Durand 16, Mich.
220/Circle on Reader's Service Coupon

PLANT DESIGN—Plant layout, process development, equipment design and selection, automation engineering and building design can be done for you by the experienced engineers of Giffels & Vallet, Detroit, Mich.
221/Circle on Reader's Service Coupon

JET BURNER—Has been used successfully on kilns, boilers, air heaters, rotary driers and chemical stills. Actually two burners in one the ring portion is a built in pilot and may be used alone for low temperature operation while the main jet in combination with the pilot ring produces maximum heat output with perfect flame retention. Furnace temperatures above 2750° F when required can be attained at extremely high draft conditions. Tate-Jones Div., Continental Equip. Co., Coraopolis, Pa.
222/Circle on Reader's Service Coupon

MILLER CYLINDERS — Case hardened, chrome plated piston rods on all air and hydraulic cylinders provide practically complete protection against damage from blows, mishandling, etc. Teflon rod wipers and hydraulic piston rod seals withstand temperatures from 100 to 500F and are impervious to practically all known chemicals. The finish used on the cylinders is rust resistant. Miller Fluid Power Co., 2013 N. Hawthorne Ave., Melrose Park, Ill.
223/Circle on Reader's Service Coupon

AUTOMATIC WELDING—Parts can be rebuilt to exact size with Amsco automatic welding. Rebuilt track rollers and idlers give twice the life of original parts with great savings on parts replacement. The Amsco 550 welder is specially designed for heavy-duty service. American Brake Shoe Co., American Manganese Steel Div., Chicago Heights, Ill.
224/Circle on Reader's Service Coupon

BOYD PRESS—Improved features on the new heavy duty Model X Boyd brick press include stronger toggles of all-steel, rib design; new sealed roller bearings or high speed shafts; new air operated clutch for versatile, push-button control; and new, heavier frames; automatic force feed lubrication. Most of these improvements can also be incorporated on X models already in use. Chisholm, Boyd & White Co., 610 W. 57th St., Chicago 21, Ill.
225/Circle on Reader's Service Coupon

GLAZES — Rasorite is claimed to be cheaper than borax or boric acid but to give equally fine results. Rasorite makes glazes more durable, more impervious, more uniformly free of crazing. U. S. Borax & Chemical Corp., Los Angeles 5.
226/Circle on Reader's Service Coupon

MOTOR SCRAPER — The new TS-260 scrapers have "live action" hydraulics for sure control; positive 90 degree steering for close quarter maneuverability; double-safety brakes; clean spreading with high apron and forced ejection; boiling action loading; many other features. Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
227/Circle on Reader's Service Coupon

How to Get Rush Information

If you want further information or literature describing the products in this special features, just use the handy coupon you will find on page 18. Our Reader's Service Dept. will contact the manufacturers directly and see that you obtain the requested information as quickly as possible.

DRYER CARS—Chase standard dryer cars are equipped with patented Chase bearings, these are dust proof, oil retaining, flexible boxing with roller bearings. Single, double or triple deck with renewable steel liner and heavy, strong bracket and boxing construction. Chase Foundry & Mfg. Co., 2300 Parsons Ave., Columbus 7, Ohio.
228/Circle on Reader's Service Coupon

FORK LIFTS—Reconditioned fork lifts are guaranteed to be as good as new by Memphis Equipment. 2,000 to 15,000-lb. models with solid or pneumatic tires; any size and lifting height, famous makes. Memphis Equipment Co., 766 S. 3rd St., Memphis, Tenn.
229/Circle on Reader's Service Coupon

CAR TOPS—Some users claim replacements are reduced by 50% with Paco car tops. For better production, a quality car top, low in spalling with a good hot load test. Available for immediate shipment in a number of various sizes. North State Pyrophyllite Co. Inc., Greensboro, North Carolina.
230/Circle on Reader's Service Coupon

STOKERS—by Canton reportedly reduce fueling labor costs with less manual firing effort, lower fuel bills by high-efficiency combustion of cheaper grades of coal, produce cleaner operation by eliminating 95% of the smoke nuisance, and improve kiln operation by making firing cycles more uniform and requiring less firing per cycle. Canton Stoker Corp., Canton, Ohio.
231/Circle on Reader's Service Coupon

POLY-V DRIVE—A totally new concept of power transmission is claimed to deliver up to 50% more power than a conventional V-belt drive of equal width. A single-endless belt with parallel v-ribs runs on sheaves specially designed to mate precisely with belt ribs, giving uniform pull, even load drive over the full sheave width. R/M Poly-V belts have eliminated the matching problems of multiple V-belt drives. Raybestos-Manhattan, Inc., Passaic, N. J. will supply further information.
232/Circle on Reader's Service Coupon

EAGLE CRUSHER — has a slow-turning feed-in roll with opposing fast-turning slugger roll which breaks up clay or shale quickly. The clays or shales are crushed down to ideal size for feeding to dry pans, grinders, or smooth rollers. Eagle Iron Works, Des Moines, Iowa.
233/Circle on Reader's Service Coupon

PERFECT SEALS—Bottle-tight clay pipe joints are possible without the use of hot asphalt or other caulking compounds. Chem-o-sol is available to form Wedge-Lock mechanical joints featuring permanent flexibility and outstanding durability which assure no displacement by roots, or seepage due to strong alkalies or acid wastes. Chemical Products Corp., East Providence, R. I.
234/Circle on Reader's Service Coupon

DUAL BURNERS — Kankakee Clay Products is firing 100 to 175 tons per day with use of North American Dual-Fuel burners. Setup includes overhead adjustable port valves with remote control levers to control air flow to each of the 6 zones. Ratiotrols adjust oil flow to match air flow at all firing rates. A recirculating heavy oil line is insulated with Ratiotrols installed at the level of the burners they supply. North American Mfg. Co., 4455 E. 71st St., Cleveland 5, Ohio.
235/Circle on Reader's Service Coupon

LANCASTER MIXER—Employs a clockwise rotating pan, counter-clockwise rotating tools, and balanced mulling action for rapid uniform batch mixing. Automatic cycling of the mixing operation is available through the Panel Board Control System combined with water metering and spray equipment. Posey Iron Works, Inc., Lancaster, Pa.
236/Circle on Reader's Service Coupon

BCR's 1957 all NEW BLUE BOOK

BRICK & CLAY RECORD

BRICK & CLAY RECORD'S

April Convention Issue

BLUE Print for Better Operation — This issue will carry more than a hundred quick, cost-saving ideas for operating personnel.

BLUE Ribbon Clay Products Plants — Will be "toured in print." You'll read of clay pipe, refractories, brick, tile and lightweight aggregate production in complete, accurate stories.

BLUE Chip Advertisers — The bluebloods among suppliers of materials and equipment will have dominant advertising in the New BLUE Book. More of them than in any other ceramic publication. This is THE advertising issue of the year.

Where True BLUE Conventioneers (and stay-at-homes too) look for and find the latest and best information on this industry.

For the Reader — it's an issue to be saved and referred to time and time again.

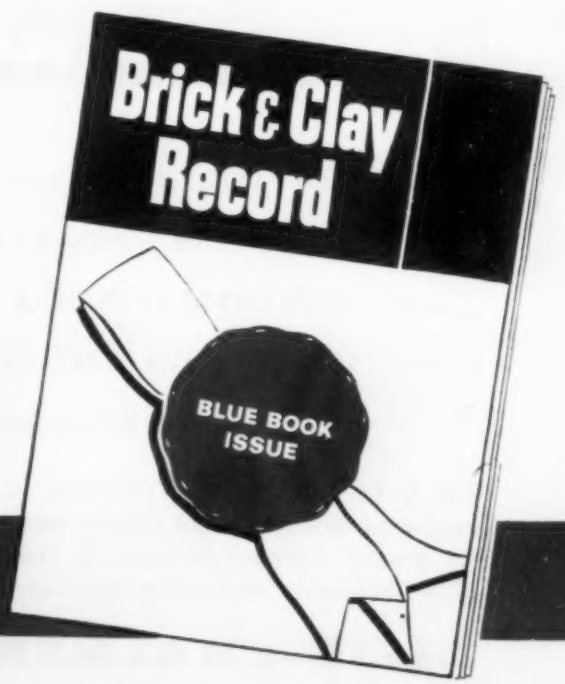
For the Advertiser — it's an opportunity to get added attention and prominence.

ADVERTISERS: Act Now

Reserve Your Space

First Closing: March 17

Final Closing: March 25



5 SOUTH WABASH AVENUE
CHICAGO 3, ILLINOIS

STRIP AND RECLAIM ECONOMICALLY *with help like this . . .*

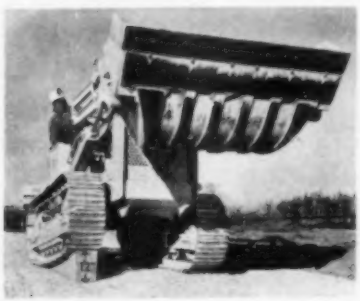
- **MOST POWER PER YARD . . . most power per pound in its class**
- **MOVES FULL LOADS AT FULL SPEED**
- **WIDE OVERLAP IN GEAR RANGES . . . for easy shifting, smooth acceleration**
- **CURVED BOWL BOTTOM . . . offset cutting edge . . . for fast, full loading**
- **HIGH APRON LIFT . . . positive, clean ejection**

This is the Allis-Chalmers TS-360 . . . a motor scraper that has proved it can strip overburden profitably . . . and reclaim worked-out areas in the same operation. As demands for greater efficiency increase, be ready with the best . . . an Allis-Chalmers TS-360. Allis-Chalmers, Construction Machinery Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS *Engineering in Action*

NEW equipment

THE LATEST IN SUPPLIER DEVELOPMENTS



New Terratrac Loader

American Tractor Corp.'s new crawler-loader is said to incorporate a number of engineering advances. Power-shifting provides completely independent power control of each track, both as to speed and direction. Also, torsion bar track suspension enables the TerraTrac loaders to maintain a level cut with full traction on both tracks, regardless of irregularities in the ground surface. As shown above, the front end of one crawler track can be raised 12" above ground and still keep the bucket cutting edge level and the other track flat on the ground. An exclusive "knock-out" action discharges sticky materials at all heights — from 31" to over 9-ft. American Tractor Corp., Ft. Wayne, Ind.

237/Circle on Reader's Service Coupon

Heavy Duty Dump Truck

White Motor Co. recently unveiled a new model Autocar for off-highway, extra-heavy hauling. It is a husky 15-ton dump truck for the construction industry, featuring a new 45,000-lb. capacity planetary drive rear axle, 10-speed transmission, 18,000 lb. capacity front axle, and power steering. Known as the Autocar Model AP15, it is available with 200 or 235 hp. Cummins diesel engines. Other features include chute construction for quicker dumping, two cylinder hoists giving a full 70-degree dumping angle with power up and down, and improved maneuverability and turning radius.

238/Circle on Reader's Service Coupon

Hyster Lift Truck

"Monomast" design is featured on this Hyster 40 lift truck. It is reported that this feature allows the operator full view of both forks and load from his normal driving position, thus giving safer and faster operation. The capacity of this pneumatic tire lift is 4,000 lbs. and load-grab, boom and scoop attachments are available. Hyster also has three other new fork trucks, models 20, 30 and 50 with capacities of 2,000, 3,00, and 5,000 respectively. Hyster Co., Portland 8, Oregon.

239/Circle on Reader's Service Coupon

Portable Pyrometer

An improved potentiometer pyrometer has been introduced by Technique Associates. This instrument is reported to be highly accurate for checking and calibrating all types of industrial and laboratory thermocouple pyrometers, whether indicating, recording or controlling, and for checking and calibrating many electrical instruments. It also features interchangeable direct-reading scales and can be used with any type of thermocouple. Technique Associates, 211 E. South St., Indianapolis 25, Ind.

240/Circle on Reader's Service Coupon

Volume-Dump Trailer

By the device of using cable operation for actuating the dump body, the costly and heavy hydraulic hoist mechanisms have been eliminated in the new Fruehauf-Schonrock Volume-Dump trailer. As a result, the number of moving parts has been reduced to only five in number. The saving of weight thereby results in more payload and another advantage reported for the cable actuation method is the removal on limitations on body length. More information available from Fruehauf.

241/Circle on Reader's Service Coupon

For complete information check items at right and mail coupon to:

Reader's Service
Brick & Clay Record
5 So. Wabash Ave.
Chicago 3, Ill.

No action on coupon requests can be guaranteed after March 17, 1957

200—Stanley Steel Strapping
201—Harrop Ceramic Service Co.
202—W. S. Tyler Co.
203—Le Tourneau-Westinghouse Co.
204—Rockfacer Co.
205—Towmotor Corp.
206—F. R. Hannon & Sons
207—T. B. Wood's Sons Co.
208—Robinson Ventilating Co.
209—Acme Steel Co.
210—Ton-Tex Corp.
211—Builders Equipment Co.
212—Ceramic Bldg. & Equip. Co.
213—Gates Rubber Co.
214—National Paint & Manganese
215—Toronto Foundry & Machine Co.
216—Bonnot Co.
217—Sanford-Day Iron Works
218—Williams Patent Crush. & Pulv.
219—Paris Mfg. Co.
220—Simplicity Engineering Co.
221—Giffels & Vallet
222—Tate-Jones Div.
223—Miller Fluid Power Co.
224—American Brake Shoe Co.
225—Chisholm, Boyd & White Co.
226—U. S. Borax & Chemical Corp.
227—Allis-Chalmers Mfg. Co.
228—Chase Foundry Mfg. Co.
229—Memphis Equipment Co.
230—North State Pyrophyllite Co.
231—Canton Stoker Co.
232—Raybestos-Manhattan, Inc.
233—Eagle Iron Works
234—Chemical Products Corp.
235—North American Mfg. Co.
236—Posey Iron Works
237—American Tractor Corp.
238—White Motor Co.
239—Hyster Co.
240—Technique Assoc.
241—Fruehauf Co.
242—Allis Chalmers Mfg. Co.
243—Drott, International Harvester Co.
244—Gerrard Steel Strapping Div.
245—Soiltest, Inc.
246—Minneapolis-Honeywell Regulator Co.
247—Hardinge Co.
248—Thew Shovel Co.
249—Clipper Mfg. Co.

NAME ..... TITLE .....

COMPANY .....

STREET ..... CITY ..... STATE .....

Here's proof that B&W Insulating

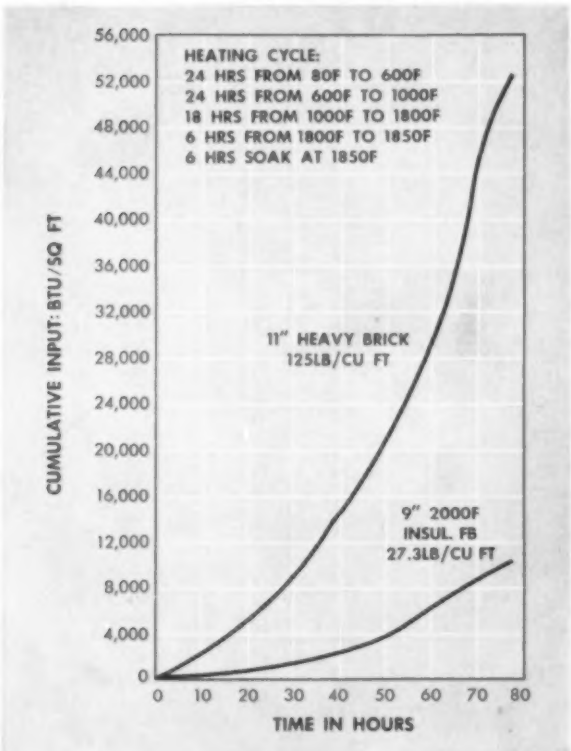


Fig. 1—This table shows the relative heat input required per cycle for two types of periodic kiln crowns. Studies were made comparing the combined heat flow and heat storage on a 78-hour firing cycle of a crown consisting of 9 inches of firebrick plus 2 inches of common brick at 125 pounds per cubic foot vs. a crown of 9 inches of insulating firebrick weighing 27.3 pounds per cubic foot (1.6 pounds per 9-inch equivalent).

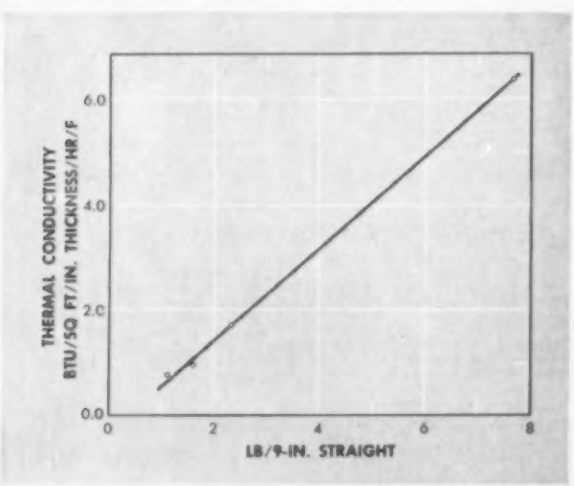


Fig. 2—This shows how the conductivity increases with weight for a group of kaolin-base refractories at a mean temperature of 900 F. The pore size assumes increasing importance in the higher temperature ranges, and of two brick having the same weight, the one with the finer pore structure will have the lower conductivity.

Reduced fuel bills and faster cycle time are two important reasons why more and more operators of periodic kilns for the manufacture of structural clay products are standardizing on B&W Insulating Firebrick—the *lightest* of all insulating firebrick.

As insulating firebrick weigh less than fireclay brick, they store and conduct less heat, which means that a smaller amount of fuel is required to bring them up to furnace temperature (see Figure 1). The low heat storage permits quicker heating and cooling of furnaces, thus helping to cut cycle time.

Unlike dense firebrick, which have relatively high thermal conductivity, Insulating Firebrick contain millions of tiny insulating air cells which cut the flow of heat through the brick . . . bounce the heat back into the

Face Brick

Fourteen 60′ x 18′ rectangular gas-fired kilns.

Results:
18.4% fuel savings.

Building Brick

Four 28′ diameter coal-fired circular kilns.

Results:
26% fuel savings.

Drainpipe

Two 32′ diameter circular gas-fired kilns.

Results:
18% fuel savings.

Firebrick cut costs in periodic kilns

kiln. The low thermal conductivity of B&W IFB means less heat is lost through the walls and roof of a furnace.

Other advantages reported for kilns where B&W Insulating Firebrick are installed include improved quality of product and reduction in rejects, made possible by the more uniform temperatures which can be maintained; savings on construction costs; and reduced overall space requirements due to thinner walls.

...and in salt glazing kilns, too

B&W Insulating Firebrick are also being widely used in salt glazing kilns where they have set new records of economy.

Due to the chemical characteristics of B&W IFB, especially K-20 and K-23, they have excellent resistance to the atmospheres of salt glazing kilns, retarding alkali attack. In fact, they give far better service than fireclay brick.

Initially, B&W Insulating Firebrick were used with a high degree of success in the *crowns* of salt glazing kilns, since these areas offered the greatest possibility for savings. B&W IFB are now being used for the construction of *complete linings of salt glaze* kilns.

Ceramic Tile

34′ diameter gas-fired kiln.

Results:
22% fuel savings.

Glazed sewer tile

Seven 32′ diameter coal-fired circular kilns *(salt glazing)*

Results:
30% fuel savings.

Core Buff Brick

34′ diameter gas-fired kiln.

Results:
25% fuel savings per ton of ware.

Face Brick

32′ diameter circular kiln with weatherproofed crowns.

Results:
20 to 30% savings.

Bulletin R-43 gives helpful data on the use of B&W Insulating Firebrick in periodic kilns. Send for your copy today.

B&W REFRACTORIES PRODUCTS:

B&W Allmul Firebrick • B&W 80 Firebrick • B&W Junior Firebrick B&W Insulating Firebrick • B&W Refractory Castables, Plastics and Mortars • B&W Silicon Carbide

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N.Y.
WORKS: AUGUSTA, GA.

R-571

Another LEADER in the Block Industry!

Unique Cubing Set-up Saves Manpower!

A standard Besser magnetic hoist is used for placing pallets holding cured units on a 50 ft. chain conveyor. As pallets move along conveyor, two men do the cubing. Pallets continue to end of conveyor, are automatically turned over and materials remaining on pallets drop into a small bucket conveyor which empties into a dump truck. Empty pallets proceed on underside of conveyor to the front where a hoist man picks up pallets with magnetic hoist and reloads to rack. Rack loaded with empty pallets is then returned to the Vibrapac. Formerly 6 men were required to do the work now done by 2 men.

Orco Operates Two Vibrapac Plants

Orco Block Company, Stanton, California, started in the block manufacturing business about ten years ago. Today, they operate two plants, one at Stanton and one at Santa Ana. Both plants are equipped with Besser Vibrapac machines.

With the ever-increasing demand for high-quality block, Orco wanted to step up their production and, at the same time, improve the quality of the block. Their Vibrapacs are doing both, efficiently and with steady, uninterrupted production.

Vibrapacs can do the same for you. Why not investigate their profit-making possibilities? Write for literature.

BESSER Company

BOX 139 • ALPENA, MICHIGAN, U. S. A.

First in Concrete Block Machines

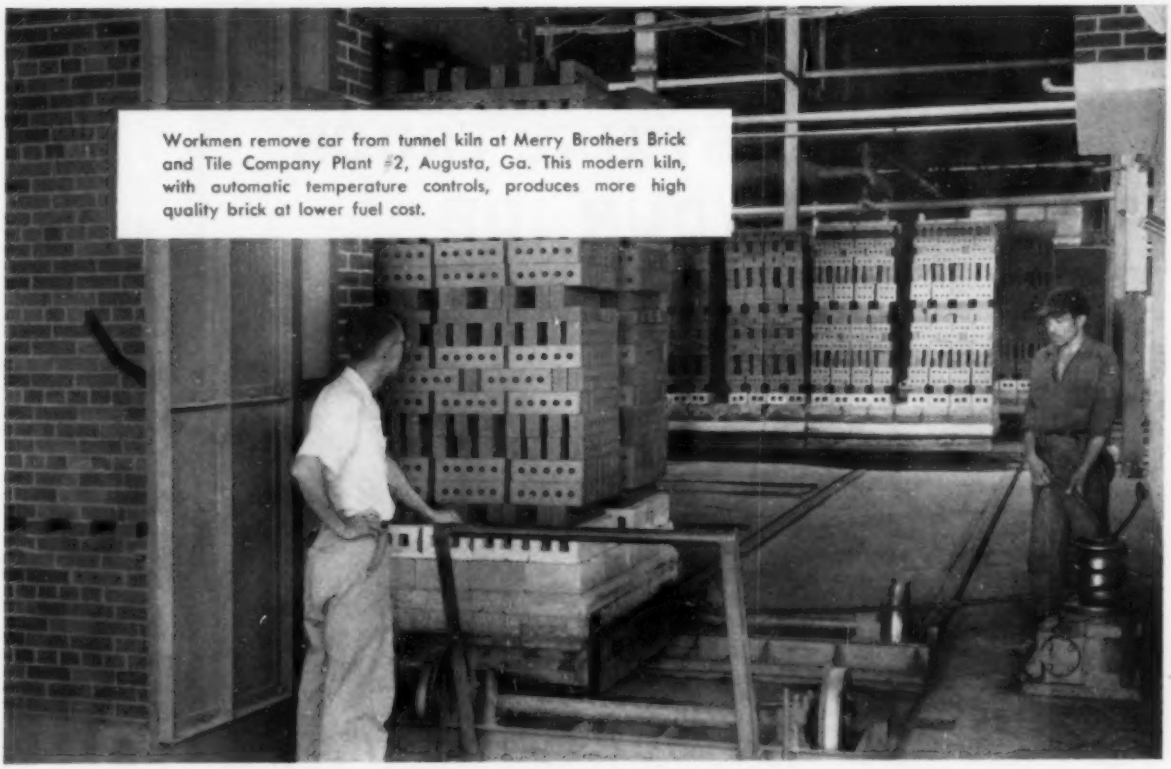
Pete Muth and Arvid Johnson, owners of the Orco Block Company plants at Stanton and Santa Ana, California.

★This is the 137th of a series of ads featuring leaders of the Concrete Products Industry who are stepping up block production with Besser Vibrapac machines.

A 6-109

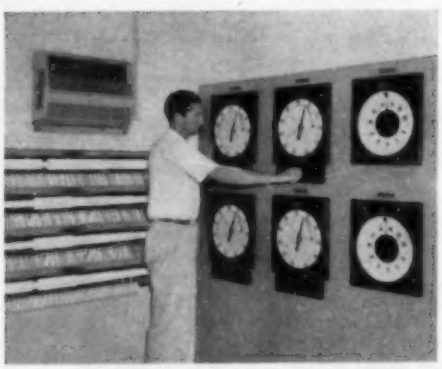
Aerial view of the Orco plant at Stanton, California, showing office building in left foreground. The Santa Ana plant is 15 miles east from Stanton.

Besser Vibrapac installed at the Stanton plant. Shows off-bearer removing block with power hoist.



Workmen remove car from tunnel kiln at Merry Brothers Brick and Tile Company Plant #2, Augusta, Ga. This modern kiln, with automatic temperature controls, produces more high quality brick at lower fuel cost.

Honeywell controls save fuel . . .



Four circular chart ***ElectroniK*** recording controllers with ***Electr-O-Line*** control regulate main burners. Other burners are controlled by circular scale ***ElectroniK*** indicating controllers. Instrumentation also includes ***Protect-O-Vane*** excess temperature safety shutoff controllers, and Honeywell thermocouples and extension wire.

increase tunnel kiln production at Merry Brothers Brick and Tile Co.

Add sensitive, dependable temperature control to the inherent advantages of tunnel kiln operation, and you've got the right combination to increase production, improve quality and save fuel.

At Merry Brothers Brick and Tile Company, Augusta, Ga., a new tunnel kiln operates automatically with the help of Honeywell temperature controls. Here, as in other Honeywell installations throughout the country, customized instrumentation helps realize the full potential of the kiln . . . helps produce more and better products at less cost.

For a discussion of how Honeywell controls can improve the efficiency of your own kiln, call your nearby Honeywell sales engineer. He's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.—in Canada, Toronto 17, Ontario.

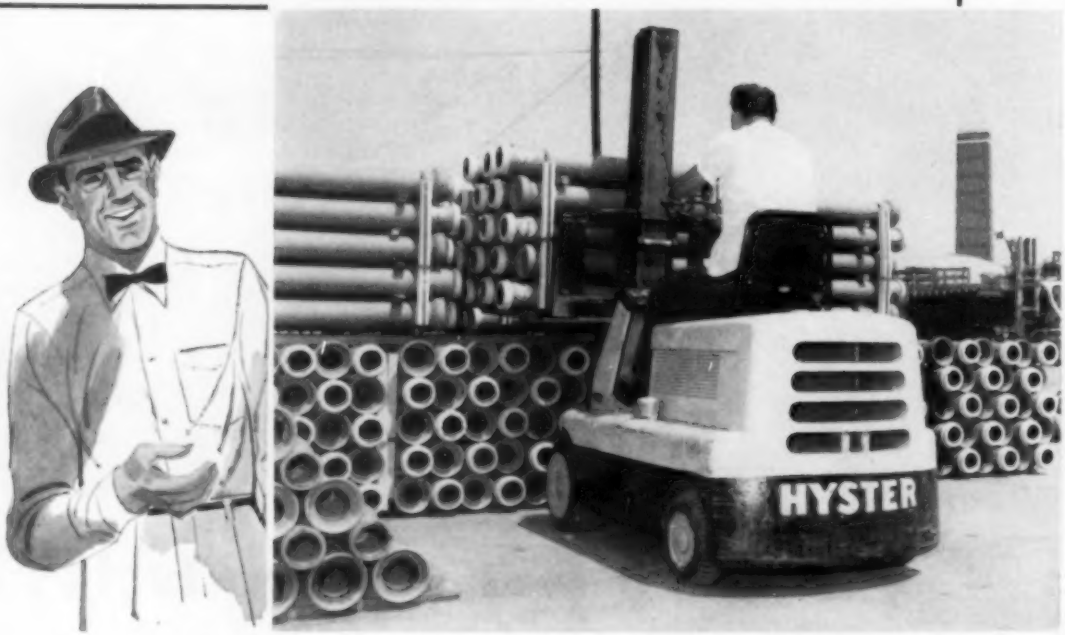
● **REFERENCE DATA: Write for Data Sheet 1.2-2, "Tunnel Kiln Instrumentation," and Catalog 1531—"*ElectroniK* Controllers."**

MINNEAPOLIS **Honeywell**

BROWN INSTRUMENTS

First in Controls

HYSTER MAKES THE *RIGHT* INDUSTRIAL TRUCK FOR YOUR JOB



"Monomast" Spacesaver® 40 lift truck stacking speed-seal® 4" house-connection clay pipe. Each no-deposit, throwaway pallet contains pipe for 4 average jobs—30 pipe 4 ft. long, 30 gaskets.

Pictured above is one of many typical examples of how Hyster® Industrial Trucks are helping to effect tremendous savings in the cost of materials handling in Brick and Clay Plants.

Even if you are now using lift trucks or have never used industrial trucks of any kind, your Hyster dealer can show you how you can quickly realize more profit from your operation with these multi-purpose utility tools. Your Hyster dealer knows materials handling . . . he is an expert on the problems and their solution. He can help you with special techniques and cost reducing methods. Call him today...why not take advantage of his materials handling know-how? He is listed under "Trucks-Industrial" in your telephone directory.

HYSTER DEALERS GIVE YOU ALL 3!

1. **PLANNING**—your Hyster Dealer will plan your materials handling operation from scratch, or will analyze your present system to see if it can be improved.
2. **THE RIGHT TRUCK**—for your job from Hyster's complete line of industrial trucks (1,000-30,000 lbs.) and over 100 job-attachments for economical load handling.
3. **THE RIGHT SERVICE**—ample spare parts stock, shop facilities, factory-trained mechanics and an efficient field service that keep your Hyster lift trucks going on your job, wherever your job might be located. Hyster trucks are noted the world over for their low downtime.

Materials Handling Trucks from 1,000 to 30,000 pound capacities

2987 N. E. CLACKAMAS, PORTLAND 8, OREGON
1087 MYERS STREET.....DANVILLE, ILLINOIS
HYSTER N.V.....NIJMEGEN, THE NETHERLANDS
FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands

HYSTER COMPANY

Let these leading ceramic producers tell you why HARROP KILNS RATE NO. 1 with them!

Built in record time

When deadlines mean dollars... you can count on Harrop's engineering skill and efficiency to speed the job.

"Getting this kiln into operation at this time is very advantageous for General Shale . . . and want to extend our thanks to Harrop Ceramic Service Co. for the efficient way that the whole job has been handled."

Turn out a superior product

From material-testing through to test firing . . . Harrop designs and builds to produce top quality ware.

". . . your three kilns are operating most satisfactorily and are largely instrumental in our having gained the reputation of manufacturing the finest brick in this part of the world."

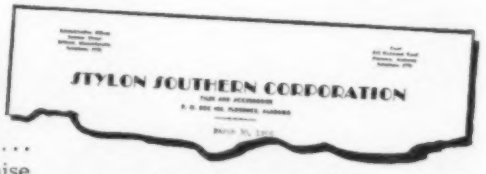
Increase production

Complete integration of product-handling equipment with Harrop dryers and kilns speeds production, lowers cost.

"Our new Harrop kiln is on 51 minute schedule . . . daily production 100,914 face brick. 99 percent number one quality with approximately one percent number two quality with no loss." Homer Bryce, Henderson Clay Products.

Maintain high performance standard

From plants the world around . . . Harrop-built kilns earn top praise for proven performance, day-in and day-out.



". . . complete satisfaction with the workmanship and appearance of our two Harrop dryer-kilns at our new plant, and particularly the high degree of performance to date."

There's the record that rates Harrop No. 1 . . . the number one source for these satisfied users and for *you*, too. Write us, please, for a non-obligating consultation on *your* kiln or dryer needs.

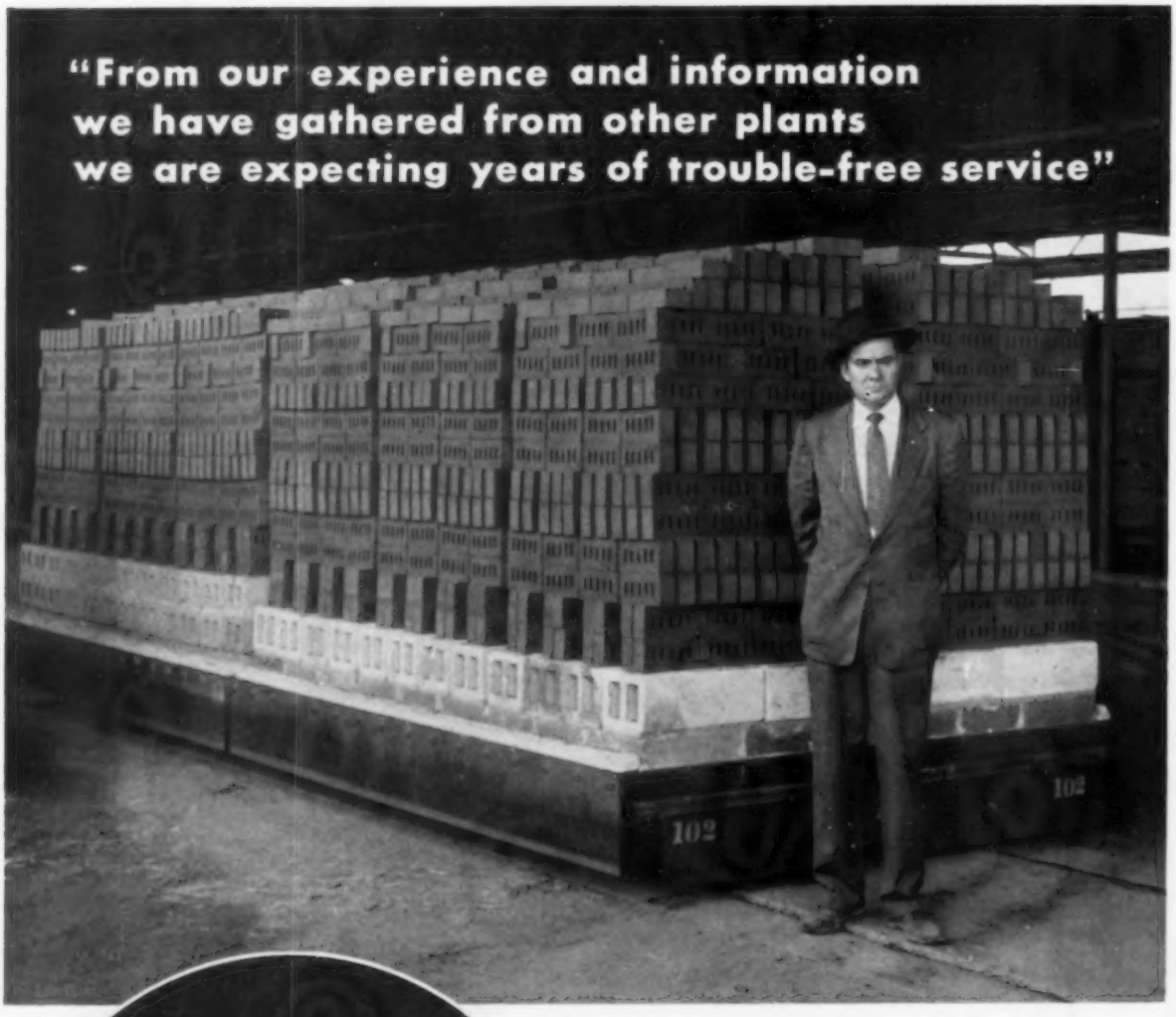
HARROP

Harrop Ceramic Service Co.
35 EAST GAY STREET — COLUMBUS 15, OHIO

British Associate: British Ceramic Service Co., Ltd., Bricesco House, Stoke-on-Trent, England
Agent for Brazil: Refratarios y Equipamentos, Industriais "Reila" Ltda., Sao Paulo, Brazil

Practical ceramic engineering put profitably to work in
TUNNEL KILNS • DRYERS • PLANT DESIGN

"We are very much sold on Sanford-Day's Wheel


"From our experience and information
we have gathered from other plants
we are expecting years of trouble-free service"
102
102

COST-MINDED management and operating officials like those at W. G. Bush Company recognize the free-running, low maintenance values of S-D "Floater" Kiln Car Wheels. Supt. Warden is pictured above with two of his S-D "Floater" equipped Kiln Cars and is shown at left at conveyor where cars are loaded. This efficient operation helps W. G. Bush Co. supply brick to the building industry at low cost.

Let us quote on S-D "Floaters"

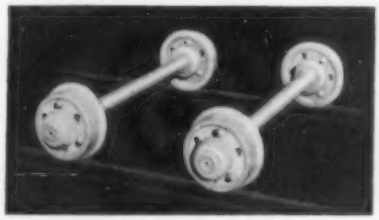
el and Bearing Assembly"

Says Supt. Alvin Warden
W. G. BUSH Co., Nashville, Tenn.

W. G. Bush Company started using our S-D "Floater" Wheels in April last year. They have been checked about every sixty days and "we find we are using very little lubricant," Mr. Warden reports. He further states they have had no bearing trouble and "we are expecting years of trouble-free service."

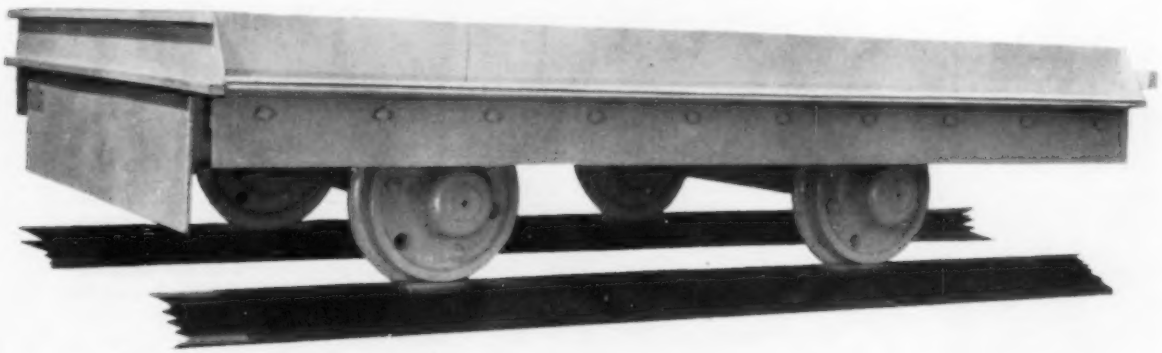
In scores of brick plants all over the nation, hundreds of S-D "Floaters" have replaced conventional roller type kiln car wheels, which have no grease seals and require frequent lubrication.

The new improved S-D Kiln Car Wheel runs free and easy (one man can push a loaded car equipped with S-D "Floaters"). It eliminates high cost maintenance and lubrication.



Inset photo shows a car set of S-D Ball Bearing Kiln Car Wheels and Axles. Note that the outer hub of wheel is completely closed. The inner hub is protected by two metal grease seals. This feature effectively eliminates dust while retaining the special high temperature lubricant.

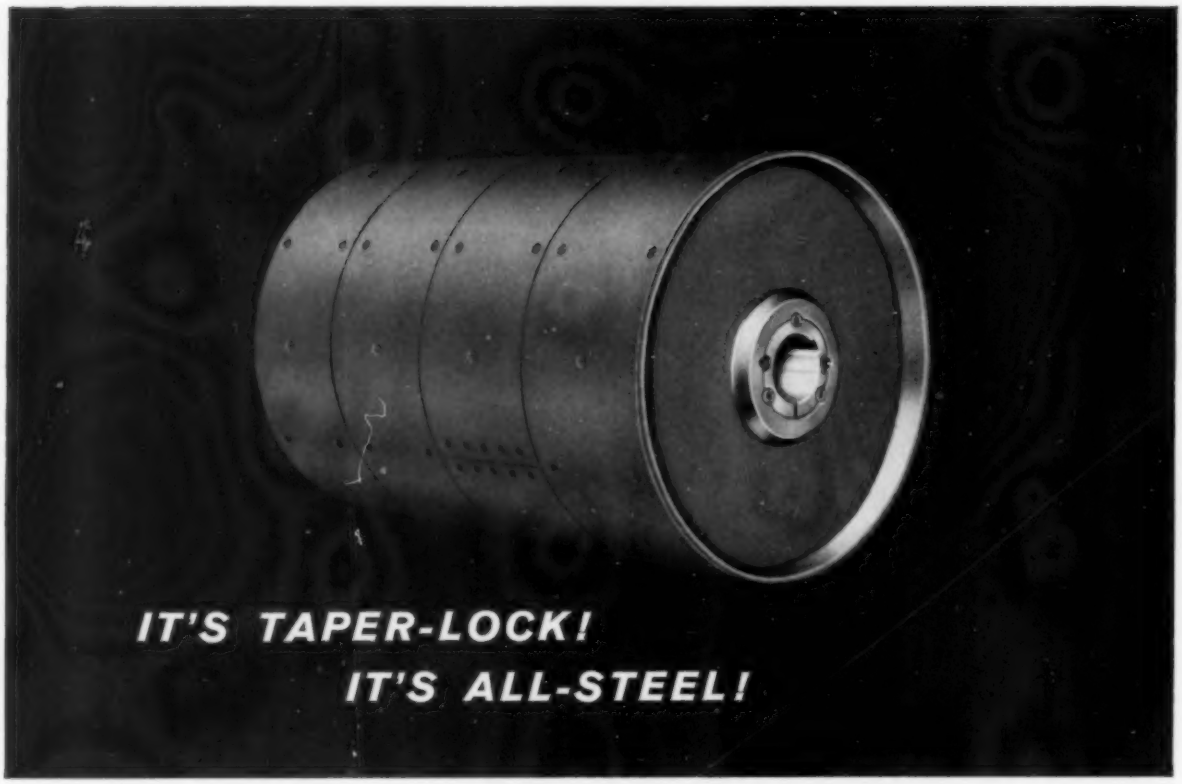
Many sizes and styles are available so that you can use S-D "Floaters" on your present cars. Ask us for complete information. Or, send us a photostatic copy or blueprint of your present cars. With this information we can quote you on replacement wheels. Simply address inquiry to *Sanford-Day Iron Works, Inc., P. O. Box 1511, Knoxville, Tenn.* Your request will be handled promptly.



"SUPER MARKET FOR MINE CARS" — all types ★ PRECISION WHEELS ★ "BROWNIE" HOISTS, CAR RETARDERS, SPOTTERS, PUMPS AND OIL SPRAY SYSTEMS ★ GISMO SELF-LOADING TRANSPORT that loads (mucks) in development or production . . . transports . . . supports 2 to 5 jib mounted drills . . . back fills . . . moves boulder rocks . . . makes its own roadways and cleans up completely — a new method of hard rock mining offering a tremendous reduction in cost per ton! *Sanford-Day Iron Works, Inc., Knoxville, Tennessee.*

SD
SANFORD-DAY
Knoxville, Tennessee

for your present cars . . . mail us blueprint of your cars today!



The modern Conveyor Pulley for superior performance . . .

One tough application after another proves beyond doubt that you can't beat a lagged, Taper-Lock Steel Conveyor Pulley for the hard jobs! Here is the score on their use in rugged coke plant service. In this particular case the installation was on belts from the quencher and loading belts to cars. The report was made after *three years of use.*

1. **One-third saving on initial cost.**
2. **Saving on maintenance; no redressing of pulley faces.**
3. **No appreciable wear on lagging.**

In addition, these Taper-Lock Steel Conveyor Pulleys provide the further benefits which are inherent in their design:

1. **No bolts to shear.**
2. **Easy on — easy off.**

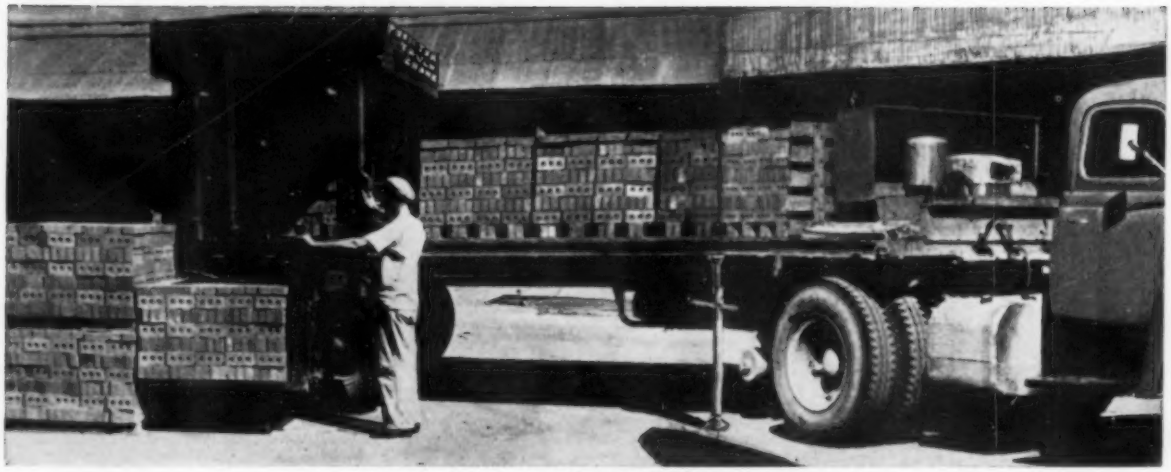
Taper-Lock Steel Conveyor Pulleys have terrific impact capability. All welds are made by the submerged arc process for 100% strength. Taper-Lock's patented back-up bar permits a weld of the full rim thickness to give 100% penetration. And there are no bolts to give way!

Normally available from stock in all face widths and diameters from 6 inches to 8 feet. *Write for bulletin.*

DODGE MANUFACTURING CORPORATION, 4900 Union St., Mishawaka, Ind.

CALL THE TRANSMISSIONEER your local Dodge Distributor. Factory trained by Dodge he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Equipment" or write us.

DODGE
of Mishawaka, Ind.



16 units of 500 bricks each, unloaded by driver alone, merely pushing buttons.

THE PRIESTER TRUCK CRANE

(PATENTED)

Unloads off either side. Puts loads on sidewalk where they belong. Requires less than half the unloading space that other devices need. Handles brick or block unpalleted or palleted or packaged. Not necessary to move truck. Unloads one, two or all units at one place! Driver alone unloads. No helper required. No heavy gates or chains to lift. No chipping or breaking bottom bricks or blocks. Most gentle handling. Loaded with lift truck in units at fraction of cost of hand loading. We supply everything ready to mount on your trailer!

Ask for Bulletin TC53

12 units of 105 blocks each, unloaded by driver alone, merely pushing buttons.

BRADNEY MACHINE CO., INC.

MIDDLETOWN, N. Y.

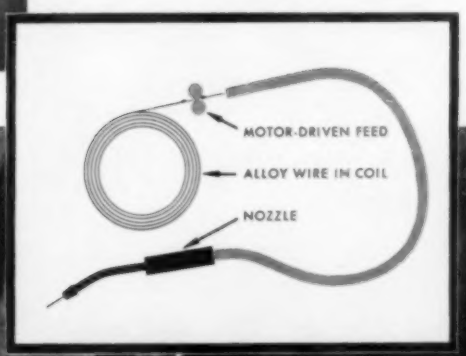
Semi-Automatic

with STOODY WIRES

Takes the work out of welding—
speeds application—cuts overall costs!

How Stoody Semi-Automatic Hard-Facing Works

Stoody Wires are supplied in layer-wound coils for use on any automatic welding machine, with minor conversions. The wire is mechanically fed to the nozzle by a motor-driven feed roll and idler roll which are actuated when the arc is struck. The welder thereafter merely directs location of the weld deposit, the machine feeding the wire automatically as the arc is struck, stopping when the arc is broken.



Hard-Facing

Semi-automatic hard-facing with Stoody Tubular Alloy Wires is one of the greatest labor-saving processes yet developed for the maintenance man! It hustles you through jobs at speeds 2 to 4 times faster than manual welding. Wires are bare, need no flux or flux dams. Deposits are thus fully visible during welding... easy to lay along an edge or to a mark.

With Stoody Wires you get *low penetration*, this means less dilution and, consequently, a higher alloy content in the final deposit. Wear resistance is thus improved... usually superior to manual electrodes of similar analysis.

Finish on the wire is clean and bright, free from burrs and slivers, insuring smooth feed through the machine. Because the wires are drawn through special sizing dies after being formed they are concentric, true to diameter and uniform throughout their length. Special chemically coated papers protect against rusting and the fibreboard shipping container insures all shipments arriving undamaged, ready for use.

When you load your first coil of Stoody Wire you'll find the nylon wrapping especially handy—no heavy wires or straps to remove, yet the wire stays coiled till you're ready to weld!

Remember, with Stoody you get a complete range of proven, time-tested wires, from low alloy to high alloy types, plus a tungsten carbide... all backed by 10 years use in the field!

Nickel Manganese and Stoody 121 Wires are available in 3/32" or 7/64" O.D. Other alloys in 7/64" diameter only. All Stoody Wires feed through most semi-automatic machines with only minor changes in wire guides, feed rolls and nozzle.

For more information see your nearest Stoody dealer, 600 of them, in all parts of the U.S. and Canada (check the Yellow Pages of your phone book) or write direct.

STOODY COMPANY

11937 East Slauson Avenue
Whittier, California

Stoody 100

Applications... Crusher rolls, impellers in impact type crushers, bucket teeth and lips, scarifiers and rippers, tool joints, cement mill pulverizer rings and loader lips

Stoody 100HC

Applications... Catalyst piping, Banbury mixers, crushers and parts subject to severe abrasion

Stoody 102 *(for submerged arc application only)*

Applications... Cable sheaves, small diameter shafting, shovel idlers and equipment subject to high compressive loads

Stoody 104

Applications... Designed primarily for build-up of carbon and low alloy steels

Stoody 107 *(for submerged arc application only)*

Applications... Crane wheels, house rollers, mine car wheels, tractor and shovel parts subjected to severe impact

Stoody 108

Applications... Sprockets, shovel idlers and pads

Stoody 121

Applications... Crusher rolls, impellers in impact type crushers, bucket teeth and lips, scarifiers and rippers, cement mill pulverizer rings, loader lips

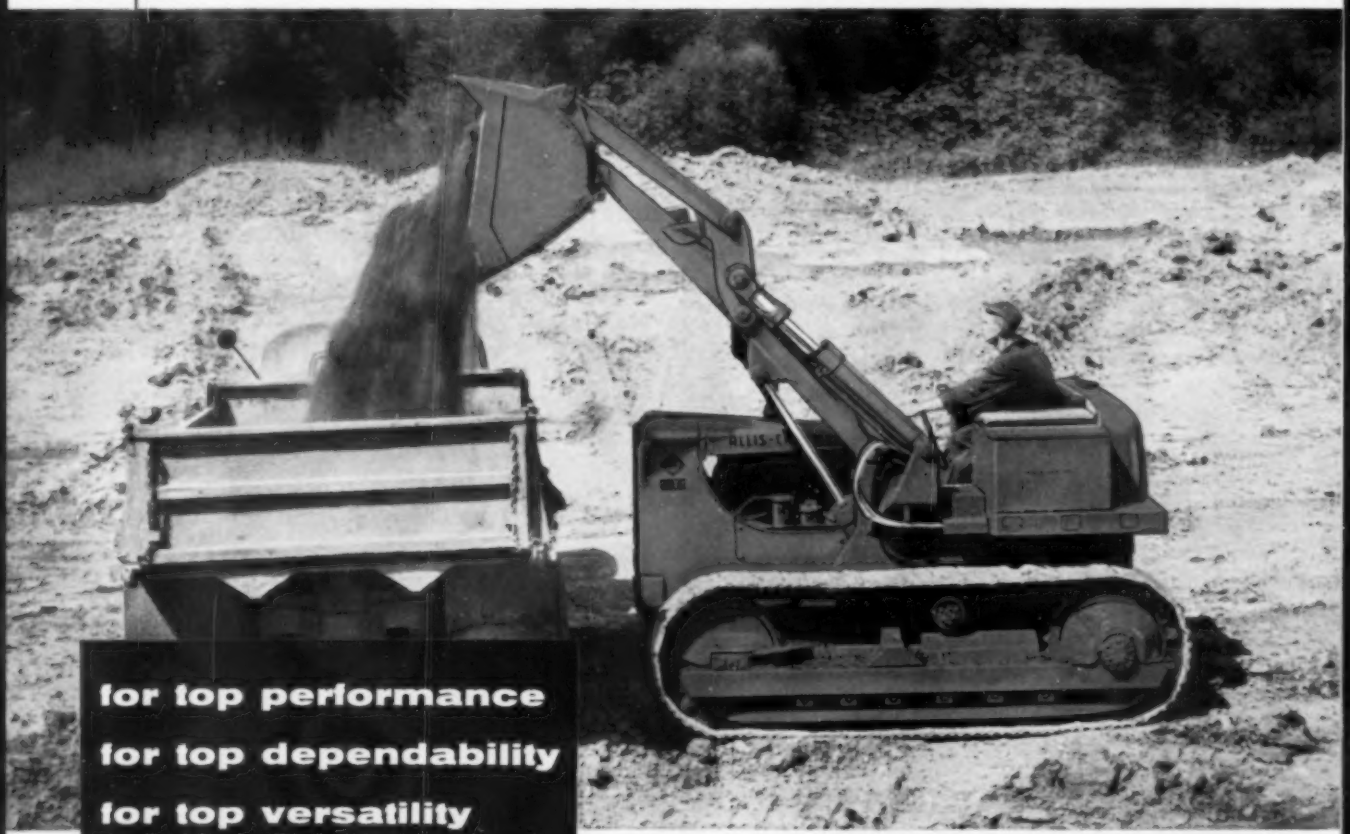
Stoody 130

Applications... Earth boring and scraping operations on equipment such as tool joints, augers, conveyor flights, scraper blades, rippers and concrete mixer paddles

Stoody Nickel Manganese

Applications... Strength welding and rebuilding of manganese parts

Set your sights on an HD-6G



for top performance
for top dependability
for top versatility

1½ yd bucket **72 net engine hp** **19,600 lb**

and all these exclusive on-the-job advantages important to both owners and operators . . .

Allis-Chalmers long-life diesel engine — power that handles tractor and bucket demands with ease.

Heavy welded-steel shovel side frames and low stabilizer — provide greater strength, low center of gravity, outstanding visibility.

Full-flow filtering — filters oil three ways, provides long-life protection for hydraulic system.

Six truck-wheel stability — almost 7 ft of track on the ground for superior balance.

1½-yd two-position bucket — handles big loads efficiently in loose material or hard-packed dirt.

All-steel, box-A main frame — soaks up shock loads, protects the entire power train.

One-piece steering clutch and final drive housing — line-bored for true alignment of shafts and gears.

Straddle-mounted final drives— with bearings on both sides of gears to maintain correct gear tooth alignment.

Simplified lubrication (including 1,000-hour lubrication intervals on truck wheels, idlers and support rollers) provides extra working time.

Unit construction —makes service easier, faster. Major units can be removed without disturbing adjacent assemblies.

Plus husky wrap-around radiator guard . . . simplified piping . . . heavy-duty truck frames . . . heavy-duty, roller-bearing truck wheels . . . matchless control . . . and the convenience of 24-volt direct electric starting.

Check the complete service program offered by your Allis-Chalmers construction machinery dealer. His factory-trained servicemen, factory-approved facilities, and stocks of True Original Parts keep your equipment operating properly . . . provide the kind of service that saves you money. See him soon; he'll be glad to show you an HD-6G at work.

ALLIS-CHALMERS, CONSTRUCTION MACHINERY DIVISION, MILWAUKEE 1, WISCONSIN

Get all the facts from your Allis-Chalmers dealer . . . now!

ALLIS-CHALMERS

A-C ALLIS-CHALMERS

Get Clear-Span Design, Rugged Construction with NEW STRAN-STEEL BUILDINGS

When you need a long, clear-span building that has sturdy construction yet is flexible enough to be tailored to your needs, you need an all-steel building from Stran-Steel's new building line.

The long, column-free spans of the new buildings make them ideal for continuous kiln operation. Stran-Steel buildings with unobstructed floor space can accommodate kilns and dryers, complete with exhaust ducts, plus plenty of room for kiln cars, lift trucks and transfer cars.

Stran-Steel buildings are rugged. At the peak and knee, the continuously welded rigid frame I-section steel plate beams are securely bolted together. Each frame is also permanently bolted to the foundation. Clear-span structures are available in widths of 40, 50, 60, 70 and 80 ft. and multiples thereof.

You get the cost-saving features of a pre-engineered structure in a quality building which is durable and fire-safe. Exterior is finished with exclusive *Stran-Satin* metal wall which provides a strong, durable panel with the weather resistance of zinc-coated steel and the smooth, spangle-free appearance of expensive materials. Peaks, gables and eaves are completely enclosed.

Up to $25,000 is available to finance these buildings through the Stran-Steel Purchase Plan. As little as 25% initial investment; up to 5 years to pay. Ask your Stran-Steel dealer for the complete story.

STRAN-STEEL CORPORATION
Detroit 29, Michigan • A Unit of
NATIONAL STEEL CORPORATION

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Atlanta 3, Ga., 206 Volunteer Bldg.; **Chicago 6, Ill.,** 205 W Wacker Dr.; **Cleveland 16, Ohio,** 20950 Center Ridge Rd.; **Detroit 29, Mich.,** Tecumseh Rd.; **Houston 5, Texas,** 2444 Times Blvd.; **Kansas City, Mo.,** 6 East 11th St.; **Minneapolis 4, Minn.,** 708 S. 10th St.; **New York 17, N.Y.,** 405 Lexington Ave.; **San Francisco 3, Cal.,** 1707 Central Tower Bldg.; **Washington 6, D. C.,** 1025 Connecticut Ave., N.W.

Stran-Steel Corporation, Detroit 29, Michigan

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☐ Please have your representative contact me.

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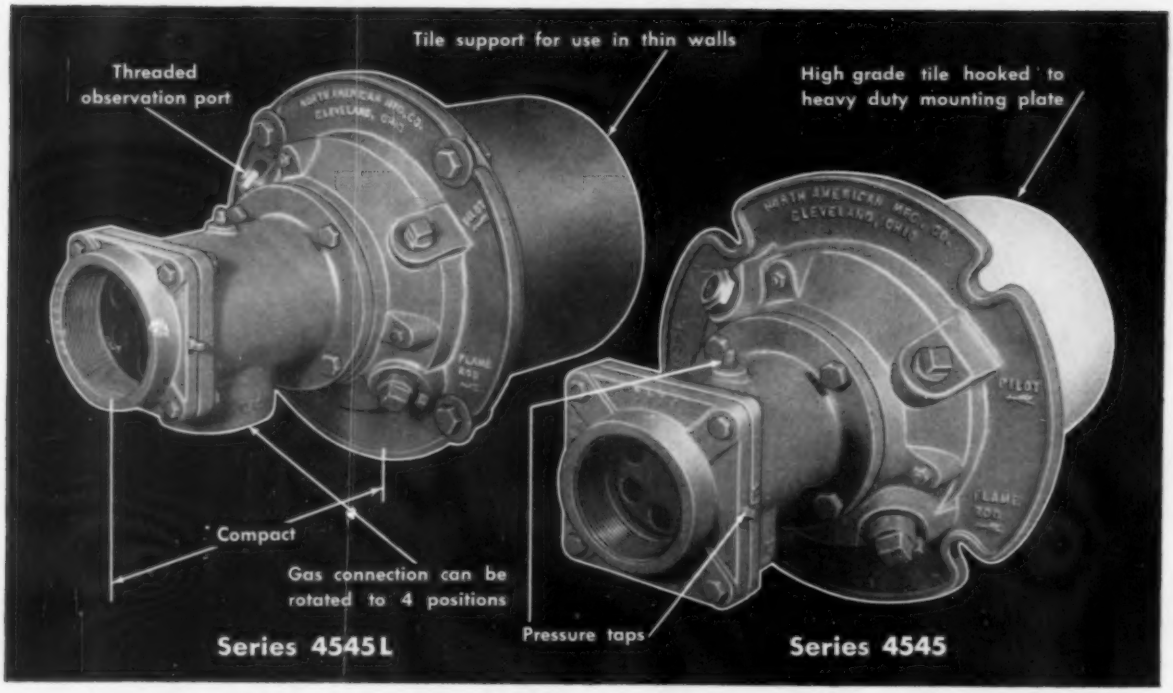
57-SS-17A 29

Penetrating Heat

by North American


Tile support for use in thin walls
Threaded observation port
High grade tile hooked to heavy duty mounting plate
Compact
Gas connection can be rotated to 4 positions
Pressure taps
Series 4545L
Series 4545

Nozzle-Mixing Gas Burners

High velocity central jet gives deep penetration
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Provision for flame safety with ignition pilot

5 Sizes — 3″ to 8″ — 1.5 to 12.4 million Btu/hr

3′ to 8½′ flame length with 1 psi air

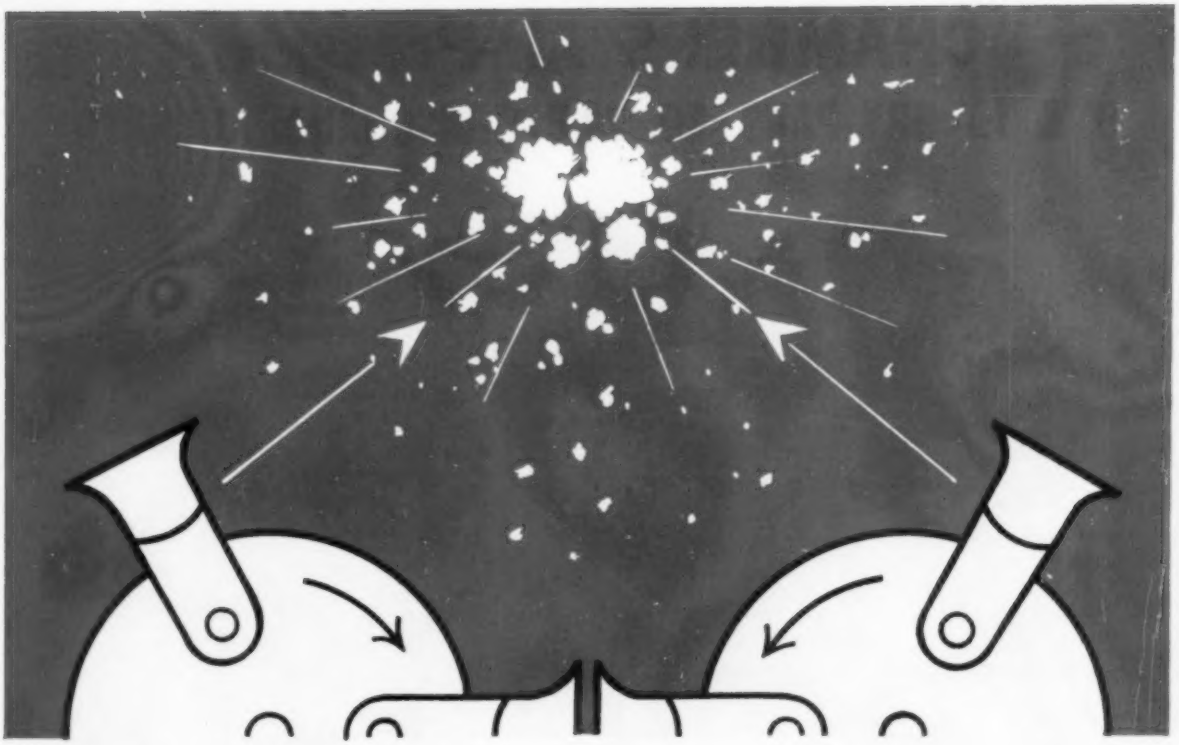
for additional information consult your local n. a. engineer or write for bulletin 4545

NORTH AMERICAN COMBUSTION since 1917

the **NORTH AMERICAN** mfg co

Combustion Engineers

4455 East 71st St. • Cleveland 5, Ohio



Bonus Pulverization with . . .

Miller Double Rotor Hammermills

By throwing particle against particle at high speeds, the Miller Hammermill gives you bonus hammering. This bonus hammering action requires no extra horsepower, and saves wear on hammers.

Miller Hammermill Rotors turn toward the center. The hammers throw the material. The collision between the particles thrown by one rotor with those thrown by the other rotor causes them to shatter and pulverize.

You get more pulverization per dollar with Miller Double Rotor Hammermills. Replaceable hammers and tips give additional maintenance economy. Made in 50 or 100 tons per hour capacity.

Let Miller test run a sample of your material to show you how Bonus Pulverization gives you a finer product. Write, wire or telephone.

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CONVEYOR EQUIPMENT
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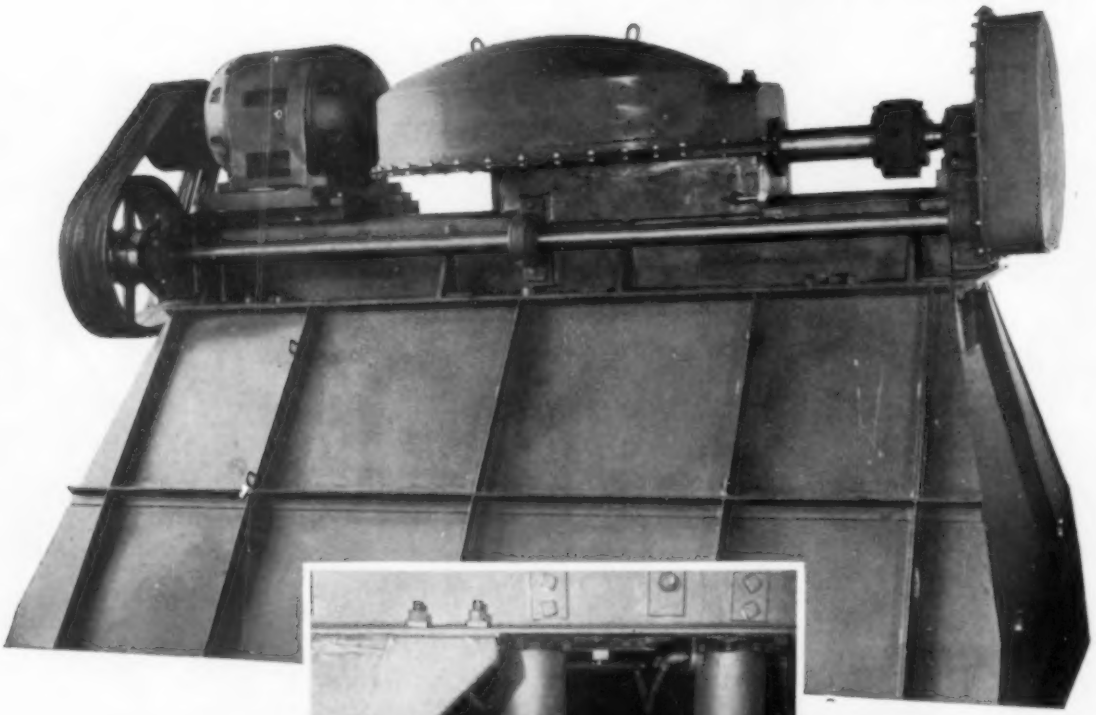
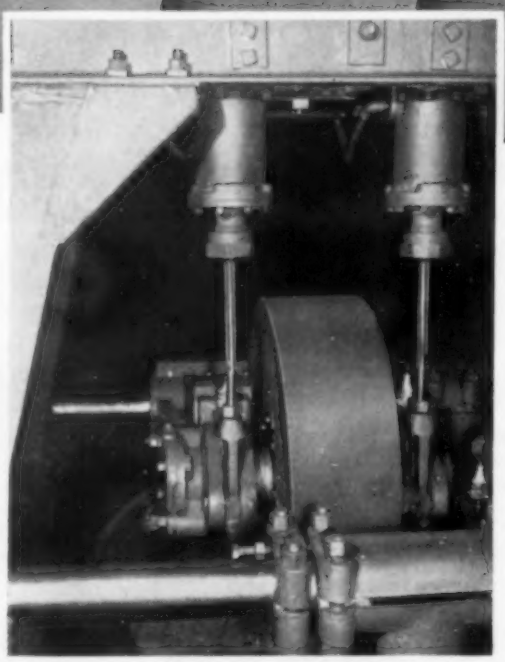
CHAMBERS Air-Pressure

9' & 10' DRY PANS, NO. 70 RIM-DISCHARGE GRINDER





COUNTER-GEARED

Look at that trim upper crosshead above! Chambers has countergeared (10-1 ratio) its famous air-pressure dry pan and accomplished the mounting of a small-frame, close-coupled high-speed motor directly on the unitized, welded steel crosshead, eliminating the need for space-consuming piers. Famous SKF self-aligning roller thrust bearing mounted in upper crosshead—no lower step bearing required.

Centralized Lubrication Optional

AIR-PRESSURE CONTROL

The air-pressure cylinders shown to the left are the exclusive Chambers feature that gives *exact* grinding pressures, by finger-tip valve control. Two to each muller, they exert a range of pressures from less than deadweight (if desired) to a mighty 10 tons per muller — without the excessive pounding and costly parts wear found in deadweight machines.

Dust Cover Optional

GRINDING PRESSURE RANGE
with Chambers Air-Pressure Control

Air Pressure in Cylinder	75 lbs.	100 lbs.	125 lbs.	150 lbs.	175 lbs.
Total Crushing Pressure on Muller	*11,900 lbs.	*14,000 lbs.	*16,000 lbs.	*18,100 lbs.	*20,100 lbs.

*Effective dead weight of muller assembly is 5,880 lbs.

CHAMBERS BROTHERS COMPANY

52nd and Media Streets **PHILADELPHIA 31, PA.**

Brick & Clay Record

February, 1957 Vol. 130, No. 2

5 SOUTH WABASH AVE.
CHICAGO 3, ILL.
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now in 65th year.

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BRICK AND CLAY RECORD is indexed by Engineering Index, Inc.

Costs—No Object?

The glamor of new materials and the search for something different has been a factor behind the introduction of many new building materials in the construction industry. And it appears that in most cases initial cost and maintenance have been given little, if any, consideration.

This situation can be linked to that old chestnut—"Who was that lady I saw you with last night?" You know the answer—"That was no lady, it was my wife."

And like the wife of several years standing whose biggest complaint is, "The bum takes me for granted," thus it might well be with masonry.

Human nature being what it is, it seems to be the new and unusual that gains the most attention—however temporary—whether it be blondes or buildings—and to blazes with cost, durability and upkeep.

It's no secret that many of these newer building materials cost from two to five times as much as masonry in the wall. Mr. Noyes of Turner Construction Co., in a comparison of wall costs considered by many to be the most comprehensive yet presented, underscored that point in MASONRY BUILDING magazine, (Nov. 1956). His analysis ranged from brick, brick-cavity, and brick and stone through glass, aluminum, porcelain enamel and steel.

Invariably costs of larger buildings constructed with these new panel-type materials have been found appreciably above those of masonry.

Time alone will prove their worth from the standpoint of durability and maintenance. But if performance to date is any criterion by which to judge the future, many will prove to be extremely expensive investments.

The Editors

SUPERLITE UNLOADERS

TRIED

TESTED

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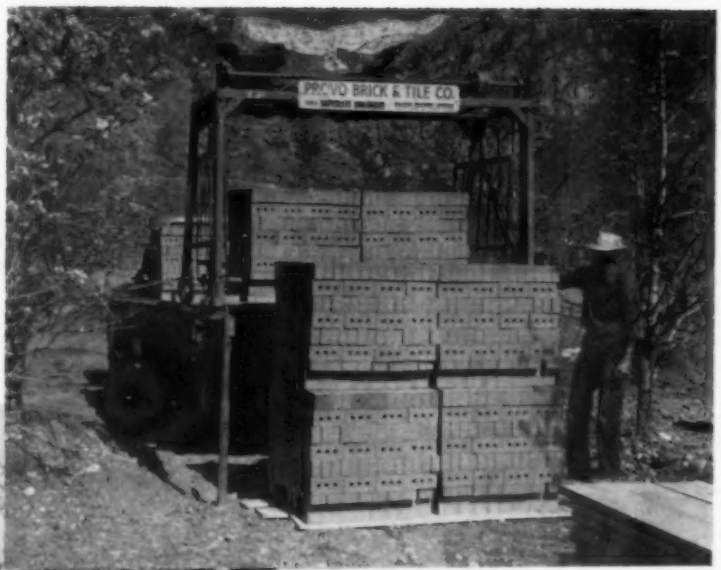

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HENDERSON CLAY PRODUCTS CO.
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PROTECT THE QUALITY
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CUT YOUR HANDLING
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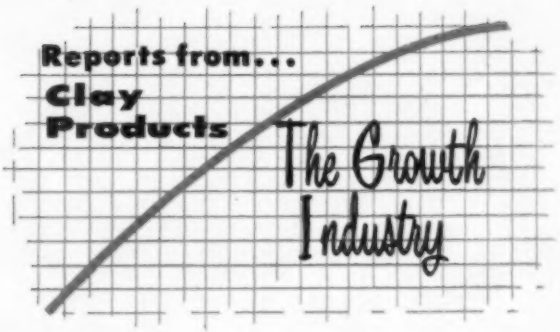


Let's Think Big in Building

As we pointed out in the August editorial, we believe that the clay products industry should level its guns at the big structural market office buildings. In looking over the production forecasts for 1957 and 1958, the big buildings are going to get the attention, the money, and it's the big buildings that will maintain the high level of the construction industry.

But woe to the brick industry! The majority of these buildings are being designed in metal, glass, concrete. They say it's the new look for office buildings.

A horrible example occurred recently in Chicago. Much publicity was given a proposed giant office building. In the announced plans for material being considered for use everything was listed—except clay products!

Research — Our Right Arm

Now, more than at any other time, the structural clay products industry must support its research program.

An industry without adequate research is not progressive, is in fact on the way down.

Pick up your favorite magazines and newspapers and read for yourself how industry after industry is emphasizing research centers and programs. Read in BRICK & CLAY RECORD the many news items about companies establishing their own laboratories or quality control centers.

Among the most recent to follow this trend was the National Concrete Block Association. It's an old story with the soap manufacturers, oil companies, chemical plants, automobile manufacturers and others.

All Industry Doing It

The swing is toward research by all industries and at a terrific rate. The objects of the research programs are increasing the use of existing products, developing new products, furthering efficiency, raising quality.

In recent months, we've heard considerable criticism of research and we question the soundness of this skepticism. One reason for it seems to be the lack of immediate results. This is directly contrary to the whole idea of all research and science . . . ideas and results cannot be produced by issuing a memo or by pushing a button.

Sound thinkers in all industry look for long term results. Certainly some immediate results should be forthcoming and they are. But it's the long term results that will carry an industry forward.

We don't criticize the non-supporters of industry research who are doing their own research work. They're trying for the same benefits by another method.

We do criticize the freeloaders, the "quick buck boys," who believe that everyone should be working for them at no cost of time or money to the free-ride set. It is to this group that we make a plea to pitch in and help research efforts.

Industry progress is vital to the entire industry . . . because we're all part of the industry and will gain or lose together, not separately.

What's Proper Promotion?

It was recently reported by *Printer's Ink*, a magazine devoted to selling, advertising and marketing, that this year nearly $10 billion will be spent for time and space in television, radio, magazines and newspapers.

This is a hefty amount of money. But so is the gross national product for this year, expected to reach $412 billion.

Ten billion dollars in advertising for $412 billion worth of goods and services works out to about 2.5% spent for advertising. Remember, this does not include such promotion work as special shows, clinics, association dues, etc. Relating this to our clay products industry, the efforts for promoting brick and tile use don't come up to this standard.

Not Spending Enough

Our industry spends about $700,000 nationally, regionally and individually for a total business of some $350 million. That means an expenditure of less than 2/10 of 1 per cent.

Why is brick so different from other products that it doesn't need the same amount of advertising as unrelated products or our competitors?

A more direct comparison can be made. The Producers' Council recently made a study of building materials advertising and found a total of 2.8% of gross sales is spent for advertising and promotion; 58.3% of that is for advertising media and 41.7% for sales promotion.

Seven Million Needed

With 7.5 billion brick at an average of $35 per thousand sold for a gross total of $262 million by our industry, using the 2.8% figure above, we should have $7,336,000 available for advertising and promotion.

It means that brick, to keep pace with the average building material, would have spent $3,059,112 on promotion and $4,276,888 on advertising.

With a predicted possible increase in business of 50% or more by 1965 (see the January editorial and a further report on the predicted increase in this issue), much more attention should be given to this phase of the brick business.

If the industry does not advertise and promote its products adequately, production may increase but may not keep pace with other building materials.

Let's Help the CFLI

The Clay Flue Lining Institute is now several years old. It was organized for the purpose of promoting and popularizing clay flue lining use in the building industry.

Over the short span of its life, this organization has already set up standards for clay flue lining which have cleared up some chaos in the industry and has given the architect and builder something more sure to work with.

The publicity that the Institute has developed has brought clay flue lining to the attention of many who are now using it but had never before given it a thought.

The advertising for clay flue lining is effective and strong.

Let's All Help

BRICK & CLAY RECORD looks at the whole situation with some apprehension. Why should only six or seven members of this industry be carrying the entire burden. There are many who make clay flue lining; these should help the Institute do the kind of job that is already being done by the Institute members.

Certainly everyone benefits by the activities of this Institute. It seems that others should be willing to do their share in financing the Institute activities.

Clay flue lining is the best kind of flue lining for any type of construction and we should tell the whole world.

Another **STANLEY STEEL STRAPPLICATION*** on the job

This man . . .
is eliminating 49 handling operations!

Before this New Jersey brick manufacturer started using the Stanley "Uni-Pac" method and the Stanley Electric Skid Magazine Tool, loading 400 bricks on a truck required 50 operations. Using tongs, 8 bricks at a time were transferred from loading platform to truck. Now, 400 bricks, steel-strapped into a "Uni-Pac," are loaded in ONE operation! With manual handling, 3 men required ONE hour to load a truck (8,000 bricks). With Stanley "Uni-Pac" handling, ONE man requires only ONE-QUARTER hour to do the same job!

Bricks can be secured into a compact, easy-to-handle "Uni-Pac" by applying steel strapping with the Stanley ESM Tool, which power-tightens each band to a pre-determined tension, with equal pull on every band. The Stanley Steel Strapping Specialist can show you how to devise a "Uni-Pac" that will be just the right size to meet your specific requirement.

WRITE FOR YOUR FREE COPY of the "Stanley Strapplication Manual of Packaging and Shipping" to **STANLEY STEEL STRAPPING,** Division of The Stanley Works, Dept. B, 1146 Lake Street, New Britain, Connecticut.

INSURE IT-SECURE IT-WITH STANLEY STEEL STRAPPING

STANLEY

**The system-atic way to solve specific packaging and shipping problems*

STANLEY TOOLS • STANLEY HARDWARE • STANLEY ELECTRIC TOOLS • STANLEY STEEL STRAPPING • STANLEY STEEL

NEWS OF THE INDUSTRY

Highest Earnings Ever For Gladding, McBean

Gladding, McBean & Co. had the highest net sales and earnings in the history of the 81-year old Los Angeles company, reports C. W. Planje, president.

Unaudited figures reveal net sales, for year ended Dec. 31, totaled $33,524,000 or 6% above the 1955 record figure of $31,704,000.

Net income after taxes was increased 22% to $3,353,000 or $4.25 per share, compared with $3.49 per share in 1955.

Am. Terra Cotta Does $30,000 Modernization

Considerable modernization and expansion work is underway at American Terra Cotta Corp., Crystal Lake, Ill., according to reports from George A. Berry III, vice president.

Included in new equipment already in are some new driers, a Chambers dry pan and an automatic glaze spraying set-up similar to that described in the September issue, page 47, manufactured by Schweitzer Equipment Co.

More work is underway at the plant with completion expected by September. The work done so far is estimated to have cost some $30,000.

"Loaded with Orders" at Otto Brick & Tile

Otto Brick & Tile reports they had all the business they could handle in 1956 and expects the same situation again this year.

Roy Otto, partner in the Springs, Pa., firm with his brother Paul, credited success of the company to "applying modern methods of manufacturing to meet the competition."

The plant has been rebuilt completely in the last ten years and more improvements are planned, according to Otto. Employing 15 workers, production last year was 3 million brick, 100,000 building tile, and 150,000 drain tile.

Attempt Made to Kidnap F. George Robinson

A $50,000 kidnap-murder plot involving F. George Robinson of Robinson Brick & Tile Co., Denver, failed thanks to the efforts of a district attorney's investigator.

Lyle F. Terry, 29-year old ex-convict, has been jailed for the planned kidnapping. Terry served 18-months in prison for a $13,000 embezzlement from Robinson B&T in 1954; he had been employed then as a bookeeper..

The plan called for vice-president F. George Robinson to be kidnapped at his home, taken to a motel to sign company checks and then to be shot with a .25 caliber automatic, according to the story told by Terry.

District attorney's investigator Mike Allegretto uncovered the plot by posing as a criminal. He won Terry's confidence and learned of the planned kidnapping, which also involved another ex-convict, Charles Jackson.

Terry had been waiting on the plan until Jackson was released from prison, where Terry and Jackson had planned the attempt. After Jackson was released, he decided to get out of the plot and to reveal Terry's plans. Jackson said he was afraid his parole would be revoked as the reason for disclosing the scheme.

Jackson called the district attorney's office, which decided to have Allegretto pose as a criminal to trap Terry. Terry's plan called for Robinson to sign two payroll checks totalling $50,000, cashing them at a bank, and then killing Robinson.

After a couple of meetings between Terry, Jackson and Allegretto in which the complete details of the plan were disclosed, Allegretto and other officers arrested Terry, on January 18.

Evidently one of the reasons for choosing Robinson was because the vice president had been one of the witnesses who testified against Terry in the embezzlement trial.

Patton Clay Plans Production Boost

Patton (Pa.) Clay Mfg. Co. is planning to boost its production facilities this year by about 30%.

The firm has ordered new machinery scheduled for delivery in March. Products manufactured include vitrified clay pipe, clay flue lining and building brick. Founded in 1895, the Patton company today employs about 160 persons in their plant and about 24 others in the clay mine.

Great Bend B&T Producing 50 M Daily

Great Bend (Kans.) Brick & Tile is using white Dakota shale to produce some 50,000 brick daily in a new $500,000 plant.

A new sheet metal building, nearly two blocks long, holds brick forming equipment and a 275' tunnel kiln. The kiln is gas-fired and equipped with automatic controls.

The same shale used for tableware and similar products, now being used for brick making, has been used with volcanic ash for glazing in the tableware manufacture. Superintendent Sharon Foster reports that Great Bend is also experimenting with the use of volcanic ash in brick manufacture.

SCPI Sales Meets "On The Way"

MEMBERS OF TROUPE for SCPI sales meets include E. F. "Al" Walsh, promotion director; entertainer Claire Monett; SCPI staff man John E. Clark; Jr.; and entertainer Dutch Adler. Monett and Adler will take part in the music and entertainment portions of the annual SCPI sales caravan led by Walsh.

Music, entertainment and skits are features of the annual SCPI sales meetings being held this year in 15 cities. Subjects covered at the meetings include an analysis of the 1957 construction market, ideas on selling today's home builder, tieing in with national advertising and a digest report on the Modern Masonry Conference held in Washington.

The schedule through February 15 was given in the January issue. Other cities and dates include Toronto, Feb. 18; Greensboro, Feb. 25; New Orleans, Feb. 27; Houston, Feb. 28; and Dallas, Mar. 1.

NEWS OF THE INDUSTRY

CSPA Re-Elects Paul Rutherford

Member manufacturers of the Clay Sewer Pipe Assoc., Columbus, Ohio, have re-elected Paul R. Rutherford as president. Rutherford was elected president in 1956.

Merle J. Crites, of Evans Pipe Co., was named vice president; Mrs. Reva D. Smart was re-elected secretary-treasurer.

Trustees elected were J. V. Duffy, Stillwater Clay Products; T. J. Evans III, Evans Pipe Co.; Hudson Hillyer, Clay City Pipe Co.; Barton A. Holl, Logan Clay Products; R. M. Graff, Graff-Kittanning Clay Products; and W. E. Robinson, Robinson Clay Product Co.

Directors to represent CSPA in the NCPMI were Holl and Robinson.

Triangle Clay To Make Normans; Outlook Good

Triangle Clay Products Co. will introduce Norman size brick as part of their operation this year and plans to up output by about 4 million brick during 1957.

The firm, a subsidiary of Quaker Sales Corp. of Johnstown, Pa., produced 8.5 million in 1956 and plans to make 12 million this year.

More than $70,000 was spent last year on a modernization program which included a large new rectangular kiln using insulating fire brick, major improvements to the drying equipment and the installation of extra brick making machinery.

Quaker Sales expects a good year in 1957, according to reports from the company officers, president Elvin W. Overdorff; vice-president Elvin W. Overdorff Jr.; and Frank C. Overdorff, secretary-treasurer.

Hampshire Brick Begins Year Around Production

The new owners of the Hampshire Brick Co., Willimansett, Mass., are operating the plant on a year-around schedule, believed by them to be the only such operation in the Northeast despite recent cold waves.

Owners Leo C. Guilbeau, president, and Gerald R. Baldassaro report that the yard has kept going all winter because of the heavy current demand for brick. Daily production now is around 50,000 per day.

Guilbeau states that production has increased about one-third since the new owners took over last April. Part of the reason for the winter-time production was new drying facilities.

The plant employs about 50 workers with production since last April totaling about 10 million brick.

Universal Pipe Exhibits at Road Show

Among the many exhibitors at the giant "Road Show" held in Chicago the week of January 28th was this booth of Universal Sewer Pipe Corp., Cleveland. As can be seen, included in the exhibit were photos of some of Universal's plants plus demonstrations of Universal's jointing method and a complete supply of information.

Amvit Earnings in '56 Reach All-time High

A combination of unequaled demand for clay and concrete pipe, and a backlog of construction planned for 1957 have resulted in all-time high earnings for American Vitrified Products Co., Cleveland, in 1956 and expectations for an equally good year in 1957, according to a report released by president E. L. Miller.

Company sales for the fiscal year 1956 were $10,148,000 as compared to $9,813,000 for 1955. Net income for the year was $605,000 equal to $3.75 per share as compared with figures of $513,000 and $3.19 in 1955.

In 1956, Amvit spent approximately $567,000 for additions and improvements to plants. The expansion program will continue for many years to come, according to president Miller.

As an example, Miller pointed to their Brazil, Ind., plant. To meet continuing demand for Amvit jointed clay pipe and to produce longer pipe, construction on a new tunnel kiln building, 70 by 480', has been completed. A building to process the mechanically jointed clay pipe has also been completed.

Other equipment added to Brazil includes two horizontal extrusion machines. Miller says, "We . . . expect 1957 to equal 1956, which was the outstanding year for our company."

Kenlite Changes Name, Operation Set-Up

Kentucky Light Aggregates, Inc., was liquidated as of the first of January and all its assets and liabilities have been assumed by the parent company, Ohio River Sand Co. Allan P. Taylor, vice president, says this does not represent any change in personnel or operating or sales policies.

Kenlite aggregate, made in Louisville, will continue to be manufactured and sold by a separate division of the parent company—the Kenlite Div. The officers of the new division will be the same as the former officers of Kentucky Light Aggregates, with C. P. Hegan, president; Taylor, vice president; J. Paul Thomas, vice president, and Taylor, secretary.

Satisfactory Year Reported by Mason City

Mason City (Ia.) Brick & Tile Co. reported a satisfactory sales volume throughout its five-state trade area for 1956, together with improved manufacturing methods.

C. H. Koplen, general manager, reports volume of face brick and other clay products for school construction continues to be one of the major markets, with "Acoustile" gaining wider acceptance with architects and owners throughout the territory.

NEWS OF THE INDUSTRY

Am-Marietta Net Income Up 45%

All previous records for sales and earnings were exceeded by American-Marietta Co., Chicago, during the year ended November 30.

Net income of $16.2 million was 45.9% over the $11.1 million reported for the '55 fiscal year. Also, 1956 was the second consecutive year in which profits increased by more than $5 million.

Earnings per common share were equal to $3.59. Net sales of the company and subsidiaries amounted to $202 million, an increase of 22.4% over last year's $165 million. This includes in the 1956 figures the sales of companies acquired by American-Marietta during the yast year.

Pastel Brick Being Made by Ohio Clay Co.

Eleven permanent pastel shades of brick are now being made by Ohio Clay Co., Garfield Heights, Ohio. Blue, green, shell pink, buff and earth tones are among the eleven.

The color is applied through a process whereby the brick are coated with slip material before color is applied. The difference pointed out by Vice President Norman Denison is that the new pastel brick are much softer in appearance and color than colored glaze brick, and are less expensive than glaze brick.

The company is building a new office building with sections in different colors, inside and out, to demonstrate the merit of the pastel brick in commercial construction. At present the colored brick are produced on order. The colors haven't changed any in weathering tests conducted, and colors can be closely matched with previous color jobs.

New Coloring Method Developed by N. C. State

What is called "a revolutionary new development with far-reaching architectural implications" was revealed before a convention of North Carolina architects at Chapel Hill, by Dr. W. C. Bell of North Carolina State College.

Bell told the architects that normally red-burning brick clays can now be fired in virtually all colors of the rainbow. He illustrated his talk with sample panels of brick in all colors.

The colored brick are reported to be permanently colored, acid and stain resistant, and soon will be commercially available at "surprisingly low costs."

The new method varies from the older glazing method, Bell said, being far less expensive and readily adapted to plant production. Also the color is a part of the brick surface and can be adapted to any textures made.

Color appears in the news in another item from Ohio about "pastel" brick and with a report of similar brick being manufactured in New England. Other information on these processes will be reported when available.

Hall B&T To Build New $700,000 Plant

Hall Brick & Tile Co. has announced plans to build a new $700,000 plant to supply top grade brick and ceramic tile clay. About 30 to 60 persons will be employed at Cleveland, Tex. H. D. Hall is vice president and director of the firm.

Roanoke-Webster Files Tax Refund Claim

Roanoke-Webster Brick Co., Roanoke, Va., has filed a claim in Federal district court for the recovery of $101,-352 in federal taxes and interest which it claims were erroneously assessed.

Wallapai Wins Depletion Decision

Based on the Cherokee and Sapulpa decisions, on December 31 Federal Judge Ling decided in favor of Wallapai Brick & Clay Products Co., Phoenix, Ariz., in a depletion issue case. The decision said that the depletion deduction is to be computed as 5% of the selling price of the burnt brick produced.

I. R. Cline Elected Region 5 President

Region 5 members, at their Chicago meeting on January 17 and 18, elected I. R. Cline of Western Brick Co., Danville, Ill., as their president for the new term.

Norman H. Crissey, Chicago Brick Co., was elected vice president; Charles T. Richards, Richards Brick Co., Edwardsville, Ill., was elected treasurer; William J. Avrutis, regional director, is secretary.

Irv Poston, past president, opened the meeting with a discussion of last year's activities and what lies ahead in this year's markets. Among other things Poston pointed out the expected increase in population and markets in the '60's (see also page 47) for which clay manufacturers should begin planning.

Don Wakefield, field engineer from St. Louis, gave a report on the Modern Masonry Conference, and announced plans for giving a similar report to architectural groups. Robert B. Taylor, SCPRF Director, was present to discuss the work and aims of SCPRF and showed a movie of the automatic packaging machine in operation at Geneva.

A highpoint of the day was a speech by Joe Cermak of SCPI followed by a report on work being done by the region in promoting brick use in pre-fab homes, given by Hugh MacDonald, regional engineer. MacDonald stressed the quickly growing market for pre-fab homes and discussed the uses of brick on pre-fabs to increase the market for clay products.

E. F. "Al" Walsh, SCPI promotion director, then announced the beginning of SCPI's 1957 merchandising program and spoke on the various aspects of merchandising and markets. A fuller report on merchandising will be given in the March issue, both in a report on the use of merchandising in St. Louis and in a full report of the SCPI sales meeting to be held in Chicago.

Other speakers included Norman Crissey, reporting on depletion; John Kneipple, discussing labor in 1957; Bill Roark, of SCPI's mason relations; and William Avrutis, speaking as regional director and secretary.

Triple Car Block Life with REMMEY SKC Blocks

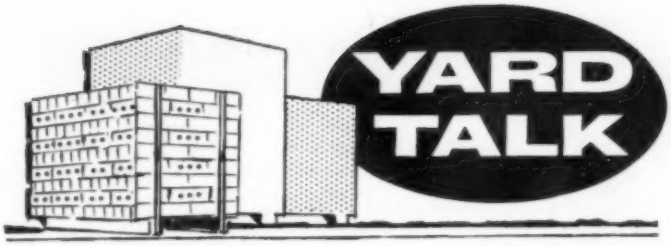
Front kiln car shows cracked car blocks. These were the best blocks ever used up to the introduction of Remmey SKC Car Blocks.

Next kiln car has Remmey SKC Blocks. Both cars have had same amount of service. A glance will show you the striking difference . . . the absence of cracking and crumbling.

The full life span of Remmey SKC Blocks is still unknown, though many are still in use after lasting *3 times* as long as best previous life.

Order SKC Car Blocks and enjoy outstanding economy.

RICHARD C. REMMEY SON CO.
PHILADELPHIA 37, PENNA.



Plant work underway, equipment installations, clay people at work and off-duty, gossip, tips on news and features to watch for—all are part of this informal column of miscellaneous news. Keep us up with what you're doing, even if it's just in the "thinking about" stage, and we'll be happy to pass it on to our readers for their information and interest.

Otto H. Ruettinger, president and proprietor of Flat Rock (Mich.) Clay Products Co., told us that they've rebuilt two kilns with use of insulation fire brick. They've also changed one kiln to gas, with one on oil and one on coal . . . Dalton (Ga.) Brick & Tile Corp., has added William Hankins Jr. as vice-president and plant manager, according to president William J. Haymaker. The plant is also revamping their drying system and replacing a mining locomotive and tracks with dump trucks.

Stevens Fire Brick in Macon, Ga., is doing a lot of work. R. E. Whittenbert, plant ceramic engineer, told us of the addition of new driers of their own design; a new building, with conveyors and bins added plus other work, totalling about $25,000 to $50,000 upon completion. They're also planning some modernization and expansion of the present plant.

Carroll Garland, general superintendent for Mason City B&T, reports that the Iowa company may enlarge their dryer at one of their plants to increase tonnage . . . Another dryer change is underwork at the Cayuga (Ind.) Brick Corp. where Hubert A. Nichols, general manager, reports work being done to modernize the dryer with a recirculating system.

E. Taylor Chewning, founder and president of United Clay Products Corp., was featured in a story in the Washington (D. C.) Post and Times Herald recently. The feature reported his life history, present activities, and career in clay products and other industry.

Construction and expansion work is underway at Norman Brick Co., Ringgold, La., according to owner G. D. Norman. Included in the work is a #30 combined de-airing machine, a #18 cutter, #4A disintegrator, and 88C even feeder, all made by J. C. Steele. The equipment cost about $30,000. Norman reports plant expansion was due to start in January with completion expected in July.

Kansas Brick & Tile is considering added glazed brick and tile to their production, according to Clyde Humphrey of the Hoisington plant. Expansion of the facilities is planned for increased production. Many changes are being made to improve the product, Humphrey reports, with production in the tunnel kiln increased from 30,000 daily to 60,000. This plant is covered in the December, '55 issue when it began tunnel kiln production. Humphrey, by the way, is the new plant superintendent, coming from Hanley Brick Co., Corsica, Pa., to replace T. J. Orrender.

The University of Michigan is planning a new materials building and laboratories and a new graduate curriculum in engineering materials which will include ceramics.

Ceramic acoustical tile and lightweight structural clay tile is in the works for Big Run Coal & Clay Co., says president C. A. Coleman. A new plant will be built to manufacture the lightweight tile. Lift trucks have been bought for the present operation for setting and drawing. Other news, according to Coleman, is "top secret" as yet.

Dr. Paul E. Cox, ceramic engineer for the Louisiana Geological Survey, retired on October 1, Leo W. Hough, state geologist, tells us . . . C. A. Clark, co-owner of Clark's Clay Products Co., Ashbury, Ky., says the company may manufacture buff brick. Clark plans some expansion, and hopes to open a new clay pit supply that's some 30 miles from the plant. Company's other plant is at Uniontown, Kentucky.

A total of 3 new periodics, two in 1955 and one 1956, have been added at What Cheer (Iowa) Clay Products Co., says R. D. Brown, sales manager. All three kilns are 36 footers, costing $28,000 each. Brown was recently promoted from assistant sales manager to sales manager.

As a follow up to the January (page 42) news item about the Mike Baker Brick Co., Lafayette, La., announcing the purchase of a plant in Cade, La., we've been informed by managing partner Henry W. Busch that the new plant will have 3 round down draft periodics, costing about $200,000 for the work involved in the new set-up. Work has started with completion figured for April 1.

Here's a true story passed along to us by Jim Neville of SCPI-Region 6, from an Omaha, Neb., newspaper: "Omaha police have confiscated a large slingshot that stands 6' high and uses a bicycle innertube for propelling power. The service was picked up in Omaha after neighbors complained that youngsters were firing brick for distances up to two blocks." Neville wonders if we should add armaments to our present market.

Howard F. West, president of Illinois Clay Products, reports a 50% expansion in their Chem Brix department is underway. The company has completed a new grinding plant for "Grundite Bond Clay" at the Goose Lake plant, a story we'll report to you in a later month.

New products planned for Western Fire Brick Co., Granite City, Ill., include cements and castables, says Sidney Womack, who was recently named general manager after serving as superintendent since 1942. Other news of Western appears in the personal column.

Now underway is rebuilding of a section of the Youngren type continuous kiln at Vincent Clay Products Co., Fort Dodge, Ia. Construction was to start Feb. 1, according to vice president and general manager O. J. Whittemore, with work to be completed by March 20.

"Multi-Faced" shalite block, using lightweight aggregate, is being made now at Poston Brick & Concrete Products.. Co., Springfield, ..Ill., reports W. Dow Poston, treasurer. We'll tell you all about this new product in a major article soon—watch for it because it'll have information that'll really surprise you concerning the low-price housing market.

Van Packer Co., at Carbon Cliff, Ill., has added about 75 more drying cars to their facilities, at a cost of about $4,000, reports superintendent Vern Rutledge.

Gradual revamping of clay grinding at Ochs Brick & Tile Co., Springfield, Minn., is underway says Harry R. Snesrud, secretary treasurer. The big story here, though, is a new 440' tunnel kiln that will increase production by some 54,000 per day . . . this is another story we'll report on fully in the spring when work is completed.

A new kiln is going in at Diller Tile Co., Chatsworth, Ill., reports president Orlo Diller . . . United Brick & Tile is building a new, modern plant near Oklahoma City, says operation manager H. L. Finn. Now underway, work should be completed by about March . . . Hill Brick Co. of East St. Louis, Ill., is now packaging their product, president F. E. Robinson tells us.

(Continued on following page)

NEWS OF THE INDUSTRY

Sheffield (Iowa) Brick & Tile, reports secretary R. J. Galvin, has added storage bins, new screens, car pushers and powered transfers as part of their recent work.

Trap rock fines are being used in a new plant making wire cut brick, according to a letter from Louis Garloni. The company, formerly Connecticut Brick Co., is now called Plasticrete Brick Co., of Hamden, Conn. Garloni says, "In this locality, we have quite a few stone quarries making trap rock, which is a hard gray stone. In their operation, they get a lot of fines from which I've been able to make a brick. These are burned in an Allied tunnel kiln." He invites BCR to see the operation, and we'll be glad to do so when one of our staff can get in that area (preferably in summer, naturally.)

In St. Louis (Michigan, not Missouri), Clay Products Co. is going into brick manufacturing with a new 40x100' dryer building and eight 120' tunnel dyers, using "all the automation that's possible" quoting president and general manager Fred E. Sigourney.

Oskaloosa (Iowa) Clay Products Co. is rebuilding their dryer to accommodate packaged brick on their dryer cars, says Wayne E. Barrett, general manager. Work started December 1, and should be finished by March 1. Inez Leatherby has resigned as office manager there to live in California; W. S. Slobe is her replacement.

Straight Engineering Co., Adel, Iowa, is expanding their office space within the same buildings, says Lee H. Straight, president.

Louis C. Wessel, secretary-treasurer of Georgia Vitrified Brick & Clay Co., Harlem, reports the company plans a $400,000 expansion with new buildings and equipment, to further manufacture of sewer pipe, drain tile and wall coping.

Col. Charles L. McGee, executive vice president of Ludowici-Celadon Co., Chicago, has been awarded a certificate of exceptional merit for the company brochure titled "Nailon Brick." The award was made on behalf of the joint committee of the National Assoc. of Home Builders and the Producers' Council.

Conversion of drying and firing operations to gas was reported at Baltimore Brick Co., in a recent edition of the Baltimore Sun. Two plants were involved, with present consumption reported to be 25,000,000 cu. ft. monthly.

At Western Fire Brick Co., Granite City, Ill., **James P. Mills** has been elected president to succeed the late **George H. Hanlon. Sidney Womack**, superintendent, has been promoted to general manager.

PERSONALS

Harry C. Martin, vice president and former research and development director of the Carborundum Co., Niagara Falls, N. Y., retired January 1 after 43 years of service.

Bradford Hooper, technical director of the Refractories Div. of Babcock & Wilcox Co., spoke at a recent meeting of the University of Illinois branch of the ACS on the subject "Techniques for Refractory Development."

Emil H. Leon, Charles C. Shamberger and **Charles J. Steitz** have announced their retirements from Robinson Clay Product Co., Akron, Ohio, after a total of almost 150 years service. Leon was with Robinson for 52 years; Shamberger and Steitz had 50 years and 46 years service, respectively.

Ralph Beets has been appointed assistant superintendent for Coral Ridge (Ky.) Brick & Tile Corp. He was promoted to the job from his previous one as foreman at the Knoxville plant of General Shale Products Corp., owner of the Coral Ridge plant.

Phillip C. Wallach, advertising and public relations director for H. K. Porter Co., Inc. was the subject for a major feature story in the February issue of *Industrial Marketing*, with a report on the advertising and promotion operation of Porter.

Robert K. Allen has been appointed superintendent of product development at the Alliance, Ohio, research center of Babcock & Wilcox Co., according to an announcement by **Paul R. Grossman**, research director.

John W. Rockwood was elected a vice president of Basic, Inc., Cleveland, by the company board of directors at a meeting January 17.

Walter D. Roberts has been appointed head of the exploration department for Laclede-Christy Co. Div. of H. K. Porter Co., Inc. He will direct the development of raw material reserves for refractory manufacture at all Laclede plants.

Eight veteran employees of Robinson Clay Product Co., headed by **Charles C. Shamberger**, assistant secretary and 50-year veteran of the general office, are the newest members of the Akron, Ohio firm's 25-Year Service Club. Included are **Frederick W. Henning, Charles L. Barber, Clarence C. Hadorn, William H. Roberts, Earl R. Cox, Howard F. Bedell**, and **A. G. Saalfield.**

Robert N. Helmkampf has joined Oswald Refractories Co., St. Louis, as sales engineer and manager of the glass refractory division.

W. C. Hoover Dies at 86

Wilbur C. Hoover, 86, general manager of the Springfield (Ill.) Clay Products Co. died January 17th.

Hoover came to Springfield in 1919 and served as president of the firm from that time until his health failed in recent years. In 1952 he fell and fractured a leg, and had been hospitalized part of the time since.

He started in the clay products business in 1904 in Portland, Indiana, and organized the Springfield company in 1919.

Edw. W. Lawler Dies

Edward R. Lawler Sr., 78, founder and retired general manager of the Lawler Co., Metuchen, N. J., died December 27 after a long illness.

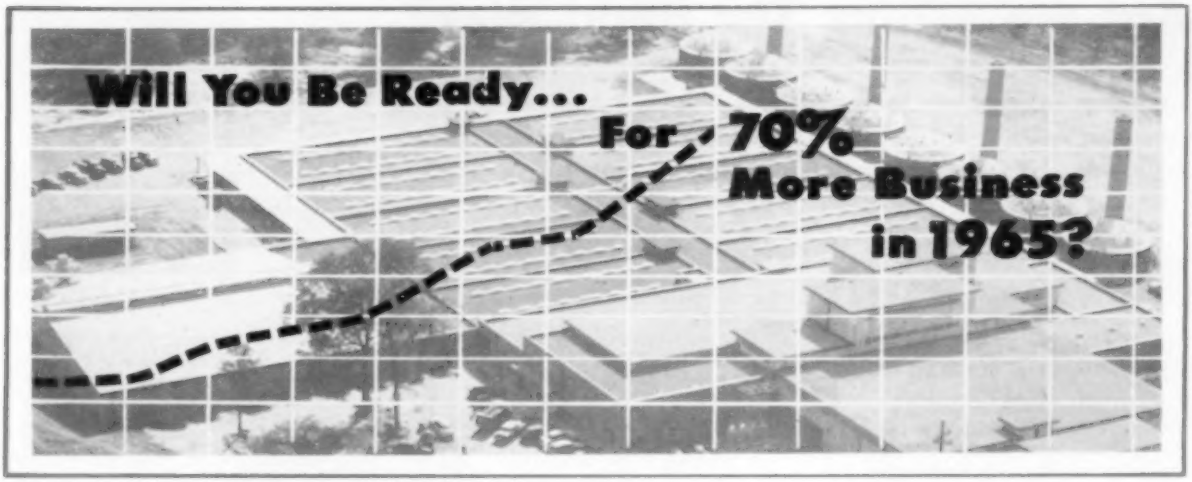
Lawler established his company in 1921 and retired in 1949.

Obituaries

Timothy M. Mulderig—70, retired traffic and sales manager for Evens & Howard Sewer Pipe Co., St. Louis, died January 15 of a circulatory ailment.

Dorsey D. Evans — retired president and general manager of the West Virginia Paving & Pressed Brick Co., Huntington, died January 3 of a heart attack.

Gordon P. Kiser—89, chairman of the board and president of the Chattahoochee (Ga.) Brick Co. died January 27.



Predictions by economists and business leaders of a 50 to 70% increase in business creates both opportunities and problems. What will you do when this rise comes?

Those who are thinking five or ten years ahead see at least a 50% increase in business by 1965. Benson Ford, in talking to a convention of automobile dealers, said that it was reasonably certain to expect 60 to 70% greater markets in the next decade.

But the real crux of his talk came in several very pointed questions.

"Can you handle 60 to 70% more business with your present facility?"

"How about working capital?"

"Can you finance that much more business with your present working capital?"

Finally, "where are you going to get the trained personnel to sell and service this additional volume?"

What—if anything—is your planning board doing about making preparation for sale of clay products in the next decade? Many industrial leaders are convinced and acting on the assumption that the tremendous velocity of our American economy will bring problems that are not easily solved.

Gross National Product

The size of the economy has been predicted in the gross national product.

Economists and leaders of industry (which, among others, includes Sumner H. Slichter; Dr. Arthur T. Byrnes, Chairman of the President's Council of Economic Advisors; Ralph J. Cordiner, President of the General Electric Co.; the Joint Congressional Committee on the Economy; and President Eisenhower) are all near agreement that our Gross National Product will be near $550 billion in 1965 at 1955 prices. Any inflation that might occur in this period would increase this still more.

It is interesting to note that in the four-year period of 1948 to 1952, the gross national product increased $88.1 billion. Of this, however, $41 billion, or 45%, was accounted for by increased governmental expenditures. In the following four years of 1952 to 1956, there was a further increase of $62.9 billion in our gross national product, but of this less than 2% was accounted for by government expenditures.

Inflation A Factor

Moreover, in the four year period of 1948 to 1952 inflation was a strong factor in the increased gross national product, while during the past four years the value of the dollar has remained quite steady.

One of the important forces operating to expand our economy is the lower average age of marriage and much higher birth rate. But while our population has been increasing at a rapid rate, our labor force is now showing the effects of the low birth rate of the depression years.

This means that until we reap the benefits of the increased birth rate of the past 15 years in terms of young men and women coming into the working age range, we are going to face the problem of manning an enormously expanding economy with a lagging work force. You may as well plan now to worry along with this problem for another 10 years.

Personnel Problems

For instance, it is estimated that our total population in 1965 will be 193,300,000. This is an increase over 1955 of 28 million people, or 17%. Assuming that the age range from 20 to 65 would represent our effective working force, there will be an increase of only 7½ million people in this age bracket, or 8.5%. This means that during the next eight years our total population will increase at double the rate of our effective working force.

Decrease Expected

Actually, supervisory personnel, technical experts, executives and the specialists of tomorrow will aggregate an actual decrease of 136,000 people, against a population increase of 28 million. So while the demand for personnel in the critical age group of 25 to 45 years will be up considerably to carry the tremendous increased burden of our economy, there actually will be less available.

It may be difficult to realize the impact of the increased business. For instance, 50% more brick, 50% more tile, 50% more clay pipe, 50% more refractories. All these will be demanded. Sure, there might little deviations up and down from a steady growth between now and 1965, but the over all expansion is inevitable.

Just to verify that we are in a good position to expand today, we should look at the condition of the population in this country. The accumulated savings have increased from $48 billion in 1929, to $66 billion in 1940 and $310 billion today.

People saved on the average of $4 billion in 1929 annually, and $4 billion in 1940, and today they are saving $22 billion a year.

Discretionary spending power was $27 billion in 1929, $26 billion in 1940 and is $162 billion today.

People Saving More

The total consumer debt in 1929 was $35 billion, in 1940 $32 billion, and today is $146 billion.

This shows what good condition we are in today. The ratio of debt to accumulated savings in 1929 when everything seemed very rosy was 72%.

(Continued on page 83)

Are We Selling The Right Way?

Jim Lange asks: Are we selling to the real buyers? Are we spending enough for promotion? Is the brick industry resting on its laurels? Do we know what our competition is?

by
James M. Lange
Executive Editor and
Assistant Publisher
PRACTICAL BUILDER

Permit me to talk to you as an—I was going to say as an outsider. But I am not an outsider. I am one of the family. For a dozen years I had been an editor on the staff of BRICK & CLAY RECORD . . . many in the audience I still remember from that period . . . from visiting plants . . . from attending scores of conventions.

So accept me as a son—not one who has strayed away—but one who has moved into other activities in the construction field—with still a keen appreciation of your product and your industry and their opportunities.

I may find myself stubbing my toe against some of the industry's traditions but my intentions are nevertheless sincere.

An Industry Advantage

Let's first consider an advantage which uniquely belongs to your industry. In the heart of most people there rests the hope, "Some day I want to own a brick house." What other industry has that inborn desire among its market?

This expresses a longing for luxury, distinction and security that has been inbred for generations. It feels comfortable to you to bask in this realization . . . but sitting in the sunshine is not enough, today. There is a wide gap between a desire and its realization . . . too many things can sidetrack the original goal to fulfillment.

Resting on Laurels?

For too long a time have clay products manufacturers rested on laurels that reach back into the centuries of long life of brick and tile; for too long have clay products manufacturers prided themselves over the durable color properties of their products; for too long have clay manufacturers felt that the public should come rushing, demanding their products.

"If the public so deeply desires a brick house, why aren't more of them built," ask clay products manufacturers of themselves.

Well, as you know, business today is not obtained in that manner . . . there is many a slip between the cup and the lip.

Your competition has similar stories about long life, color, long range economies, and the like.

Maybe not as good a story as you can tell, but they are telling it better and with more intensity . . . and it has begun to stick.

I realize that most of you gentlemen are production-minded. I know that you clearly understand the benefit of a new pugmill, or a better dryer or more efficient tunnel kiln. The standard with many of you is, "Let's make more and better clay products."

Let's Sell More

What about changing that to, "Let's sell more of the better clay products we make."

As you manufacture brick and tile, you must also manufacture sales; you must provide the tools that create more business; you must understand and accept enthusiastically that the expenditure for promotion and selling is just as important—yes, more important—today than buying something made of gears, belts and motors.

Do you know what your competition is? It's not just from the structural elements in a building—it's also from appliances, the extra bath, air conditioning, dozens of accessories that are now offered to entice buyers. And there are powerful merchandising forces in all of these fields . . . selling, selling, selling . . . in many cases selling the "frosting on the cake" . . . rather than the security, durability and maintenance-free benefits you have to offer.

What Consumers Want

Listen to some of the consumer surveys. Several, including the recent Women's Conference on Housing—are asking for more space . . . more room within the house—even at the expense of foregoing the frills being offered. That means families want larger houses—that means more wall area—that could mean more clay products per house.

Let me relate one of most recent date. The Aluminum Company of America is spending $1,000,000 for promoting foil insulation in homes in a comprehensive program covering all phases of merchandising . . . spending hidden in the wall . . . and they're directing most of the money to the builder who's got to understand and be sold, despite what the consumer may desire.

Let's do a bit of fast arithmetic. If my figures are right your membership represents a volume of about 5 billion brick equivalents. At an average selling price of $40 a thousand this represents annual sales of $200,-

Presented at the Boca Raton, Fla., meeting of SCPI last Nov. 12-14

Jim Lange Challenges the Industry . . .

"For too long have clay manufacturers felt that the public should come rushing, demanding their products . . ."

"Do you know what your competition is? It's not just the structural elements in a building . . . It's also from appliances, air conditioning, the extra bath . . ."

"If the builder is not aware of what (clay) products can do for him . . . he can very well sell something 'just as good' . . ."

"There is no reason for long faces . . . rather there is reason for careful study of where we have been and where we are going . . . this breather is in your favor if you will take advantage of it . . ."

"A builder is a manufacturer of structures and he is also a dealer in structures . . ."

"Merchandising is a most important trend which has not yet reached its crest. Manufacturers of building products have been quick to recognize this in offering builders merchandising kits . . ."

000,000. Taking just ¼ of 1 percent for promotion, we arrive at $500,000 —how does that stack up with what you're doing?

According to the Producers' Council, advertising and sales promotion expenditures as an average of gross building product sales of its member companies amounts to 3 percent.

Made a Start Only

You have made a start in merchandising . . . but it seems you have to run twice as fast even to regain some of the markets you had entirely to yourself some years ago. Some are lost, so you must create new uses in addition.

Repeating "Some day I want to own a brick house," some may feel that the shortest and simplest way to capitalize on this desire is to promote to the consumer. If the consumer bought brick and tile as he does a loaf of bread, then that could be a quick answer.

Builder Must Be Sold

However, in our case, the consumer is buying a structure of which clay products may be just a start. He may have the desire for brick and tile but if the builder is not aware of what these products will do for him—in the way of better financing privileges, quicker sales and no call-backs—he can very well sell something "just as good."

Remember what I said about Mr. Typical Builder—he wants to please his customers, to be sure, but he is first interested in what a product will do for him, too. So, he needs your story, told in giant size proportions and repeated with facts.

The builder is the low man on the totem pole—everyone else in the house building field does his job, gets paid and gets out—the builder has the final product to deliver to the customer, then he gets his money. If there are complaints the builder gets them first; if the house fails to satisfy, the builder's name is passed on as "no good." So, do you wonder why he is so careful in choosing products and why he has to know all about a product and how he can use it most efficiently and effectively?

Don't Overlook Consumer

I don't recommend passing up the consumer—you've got to continuously stimulate his desire for clay despite the fact that the consumer magazines spotlight "the warmth of wood" in their editorial content.

But to whet that desire to mean something to you, you should merchandise your products heavily to the technical people in the light construction field; to the builder-contractor; to the small town and local dealer.

That's a big job . . . but you are a big industry.

You are enjoying good business today . . . it possibly would have been more if changes in construction and design practices . . . and the lack of merchandising in past years had not caused the reduction of the number of clay units per structure.

There are many elements in your favor.

First of all, the inherent desire, "Some day I hope to own a brick house."

In our tight money situation, bankers today are scrutinizing mortgage applications to see how much security.

Builders are seeking to offer homes that are maintenance-free and do not require call-backs for adjustment. Your products fill this requirement.

Design possibilities and color, which is a growing trend, are at least as plentiful in clay products as in any other materials.

Your current and future developments in handling and installing your products fit into the builder's need to conserve construction time.

Industry Can Meet Challenge

Knowing your many troubles of the past and how you solved them prove to me that you have the vigor and resourcefulness to tackle your current problems.

The building industry is in good shape and its future brighter than ever. Commercial building is booming; industrial and institutional is following that pace and residential is down a bit.

The dip in housing starts is a good "breather" for a market that has been at a feverish pace these many years. In fact, this "breather" is in your favor, if you will take advantage of it. It means that the builder will be more susceptible to designs and materials that will appeal to the public in order to sell his houses. Tell him why if he uses more brick he can convert more prospects into customers.

Careful Study Needed

There is no reason for long faces . . . rather there is reason for careful study of where we have been and where we are going. During this period the home building industry will be able to weed out undesirable factors in the business.

This "breather" also gives the builder more time to study what manufacturers have to offer him; to consolidate his own methods; to take a fresh view of what he can do to serve a more selective market; and to prepare for the big need for housing expected to break in the '60's. The early '60's will see the greatest era of family formation this country has ever known, as the War babies reach marriageable age. It is generally agreed that in those years housing will reach between 1.5 to 2 million units per year.

What About '60's?

You have a slogan, coined by my early love, BRICK & CLAY RECORD, which says, "The '50's Belong to Clay Products." The '50's are slipping by fast . . . can we honestly say the slogan has been accomplished . . . more important are we going to be in position to march into the '60's with the victory slogan?

SCPI Accepts Challenge with—

Local Level Merchandising As Key to 1957 Sales

E. F. "Al" Walsh, SCPI promotion director, has announced that the big promotion push this year will be on merchandising of clay products at the local level. Promotional literature and equipment is to be made available to all members interested, tieing in local advertising and promotion with the national campaigns conducted by SCPI.

Backed up by the national advertising, the local sales outlets will have ample opportunity to tie in and do a big sales job in 1957.

The program makes available for local merchandising such items as metal lawn and truck signs; lapel buttons for homebuilders and their salesmen; newspaper advertising mats, and handout literature.

This merchandising effort to sell clay products is the biggest, most concerted and inclusive effort that has ever been attempted by the brick industry in this country.

BRICK & CLAY RECORD will carry success stories on how merchandising campaigns have succeeded in St. Louis and Minneapolis; how the program is progressing in Cleveland, Detroit and other communities.

Here is an opportunity for dealers and distributors, builders and manufacturers to cooperate in a dynamic sales campaign.

Walsh, director of the program, said at the SCPI-Region 5 meeting recently, "This is the year of opportunity in spite of a slight decline in the number of starts in the residential market. This is clay products opportunity to get more business and to be a forerunner to the golden years: the remainder of the 50's and the 60's. The type of homes that will be built are the type that can be built of clay products."

Watch for future articles and news of the merchandising program in BCR and pattern your merchandising program for your area accordingly.

More Productive .

All kinds of processing and manufacturing plants are reporting exceptional satisfaction with the performance of the new-model HA "PAYLOADER" tractor-shovels. With their larger 18 cu. ft. buckets, they not only handle more tonnage of bulk materials than earlier models, but are way ahead of other front-end loaders in design and productivity — can deliver more tons per hour than heavier machines with larger engines.

Exclusive one-lever control handles tip-back, lift, dump and lowering of the bucket, simplifying and speeding operating cycles. The 40 degree tip-back of the bucket at ground level gets and holds big loads close and low without spilling. Hydraulic load-shock-absorber smooths the ride and permits higher travel speeds.

Fast, efficient and low-cost boxcar loading and unloading

Lift-fork attachment for pallet loads

Push-fork attachment for spotting cars, skidding machinery, etc.

Pick-up sweeper to clean floors, aisles, docks, and driveways

Special tine-buckets for odd pieces and "sifting" work

Dumps into hoppers and bins — feeds mixers and mullers. Operator has precise control of dumping rate.

Barrels, carboys, bales, bags, drums also handled with bucket

. . More Versatile

Greater productivity is only half the story of the model HA, since it can be readily adapted to do many other jobs on either a part-time or full-time basis. Quickly-attached floor sweeper, fork-lift and pusher-fork attachments, plus special buckets are available to further increase its usefulness and make this "PAYLOADER" one of the most versatile, profitable machines any plant can own.

• • • • •

The knowledge and experience gained during the past 30 years in building thousands of tractor-shovels — more wheeled tractor-shovels than all others combined — is your assurance of superior design, engineering and performance. The "PAYLOADER" line is also a complete line — a size for every purpose — bucket capacities from 1¼ cu. ft. to 2¼ cu. yd. There is also a nearby "PAYLOADER" Distributor with complete parts and service facilities.

PAYLOADER®

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City

State

8

How Interstate Gets . . .

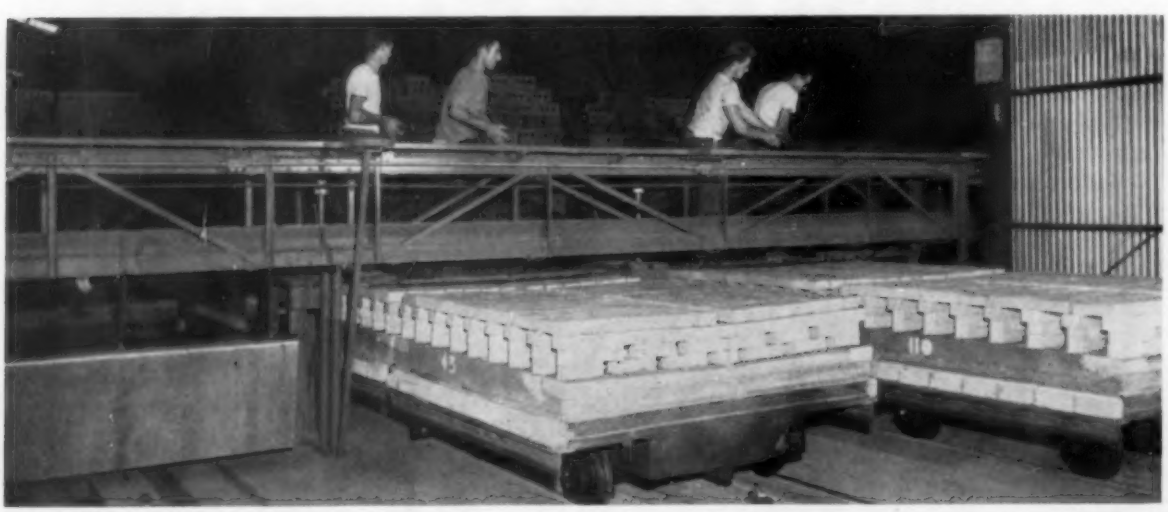
10,000 Extra Brick Per Day From New 320′ Tunnel Kiln

This new plant features quality control of grinding and feeding operations; added comfort for workers; plant designed innovations for more efficiency.

Continuously successful production of better than 60,000 brick per day with facilities rated only at 50,000 brick per day is one of the many interesting operations in the new half million dollar plant of Interstate Brick Co., Salt Lake City, Utah.

One of the large producers of clay products in the Mountain States area, the Interstate concern dates back to 1891, when the original plant was founded by John P. Cahoon, before Utah was officially granted statehood and functioned as a territory. The plant served the Intermountain area with a variety of heavy clay products as the Salt Lake Pressed Brick Company until 1936, when it was incorporated under its current title, Interstate.

Officers, management, and personnel include Chester P. Cahoon, President & General Manager; James W. Wade, Vice-President; John B. Cahoon, Assistant Manager; Dr. Harold P. Cahoon, General Supt. and Production; Andrew C. Bath, Sales Manager; Richard C. Cahoon, Office Manager;



CONVEYOR BELT from brick machine extends 120′. One plant idea was to put the scrap return underneath this belt. At left of photo above is aluminum deck plate which automatically slides atop kiln car coming through; provides heat protection.

CAR OF SCR BRICK emerges from the new 320' Allied kiln at Interstate. The plant, designed for 50,000 brick per day, has produced as much as 69,000.

George E. Cahoon, Personnel Director; and Lynn E. Cahoon, Engineer and Assistant Supt.

For many years the company manufactured sewer pipe and brick, together with a general line of heavy clay products. Shortly after World War II, as has been the case in many cities, an overwhelming boom in low cost residential construction engulfed the Salt Lake City area, setting up such a demand for common and face brick that the Interstate's entire production was given over to the manufacture of building brick.

Production Switch

By early 1955, it was obvious that a complete switch in production techniques as well as the installation of additional productive equipment would be necessary to keep pace with the market.

After much study and visits to other major brick producers in the United States, it was decided to build a complete new plant, built around a 320 foot Allied tunnel kiln, and to incorporate in the production process a number of innovations developed by the company.

Extra 10,000 Brick

Almost a year went into construction of the new half million dollar plant which is a complete separate operating unit producing approximately 10,000 bricks per day above the standard rated capacity of the railroad tunnel kiln. During September, for example, production of the new plant was 69,400 bricks per day.

T-shaped, the new plant occupies space formerly occupied by a beehive kiln, and a continuous Hoffman type kiln which had been built in the center of the Interstate holdings in 1892. Razing of these kilns provided space for the 400 foot all-metal building which encloses the tunnel kiln, dryers, and off-the-belt loading equipment, plus another brick and metal structure, 150 feet in length, for the brick machine and associated equipment.

At first glance the new plant appears to follow standardized, traditional brick production methods. Clay is mined at various points between 5 and 40 miles distant from Salt Lake City, and is trucked to the plant and stored in large piles where ample storage area is provided.

Clay Storage

Movement of the materials from the storage piles into the clay shed is accomplished by trucks and mechanized loaders. The clay storage shed at the east side of the brick machine building is 300 feet in length, and equipped with an overhead clamshell-bucket crane, of one and half yards capacity, which moves the material into four feeder bins.

The clay is automatically mixed or proportioned as it leaves the feeder bins and passed by means of a conveyor belt to an American #384 grinder. After grinding the clay is elevated, screened and placed into two 100 ton capacity hoppers which supply the J. C. Steele brick machine. The brick moves via a 120 foot conveyor, at right angles, and across the kiln car tracks in the kiln building for drying, burning, and transfer to the storage yards.

That's the over-simplified process which as pointed out above seems to follow traditional design. Actually, however, at every step, Interstate has introduced production improvements.

Dry Pan Mixing

First of the Interstate innovations are the dry-pan mixing systems, which are installed between the clay storage shed and the grinder. Here, in the interests of quality, Interstate has installed four feeder bins, all controlled from a single control panel centrally located for easy access which provides an automatic and even mix of raw clays, reclaimed brick, and other materials as they are transported by conveyor belts into the grinder.

The four feeders are located in a row along a 25 foot conveyor belt, where, according to the setting of a rheostat which controls the amperage, one-sixth horsepower motors operate each feeder at various speeds.

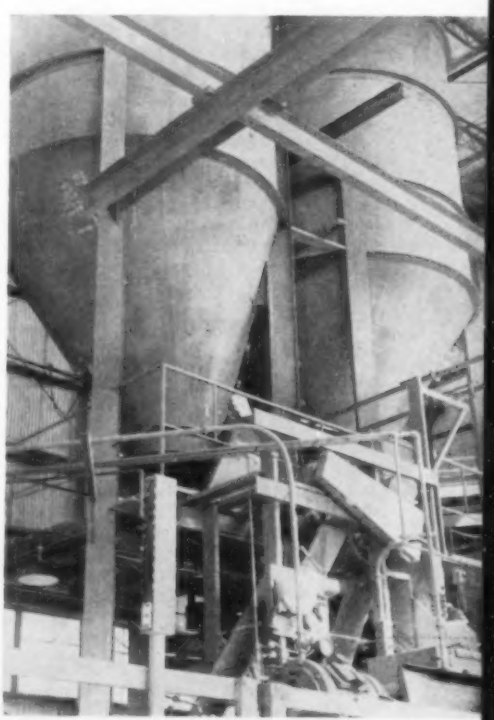
Material falling off the right angle conveyor belt at the base of each feeder falls in accurately measured amounts on the main conveyor belt traveling to the grinder and thus provides a mix which incorporates desired percentages of reclaimed brick and various clays. As many as four clays can be mixed in the dry state, direct from the clay storage in this way, although two clays and reclaimed brick or grog in small amounts make up the average mix.

One Man Control

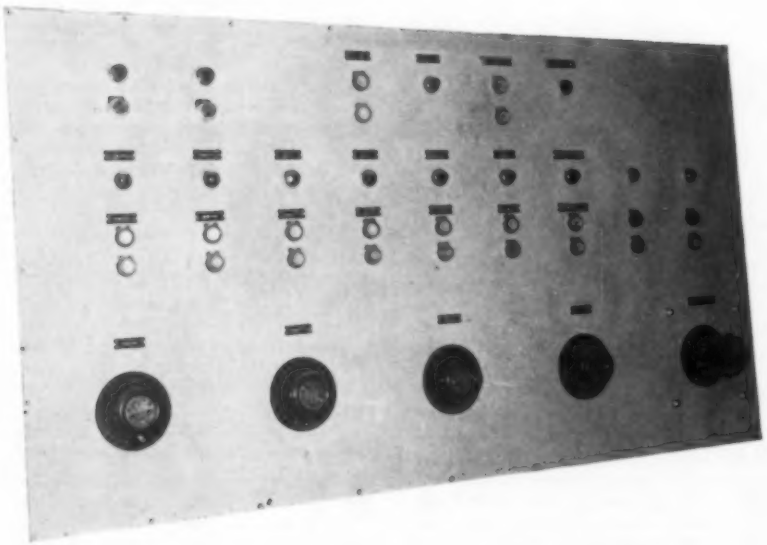
The setting of the feeders is controlled for the product curently under manufacture, and supervised by an operator at the control panel who is responsible for maintaining a check on the mixing and grinding machinery.

The clay mix is to be further improved by the installation of a clock-type meter on each of the feeders which will show the number of revolutions each is accomplishing for a better balance of acceleration and deceleration. Currently when the mixture is changed, there is a corresponding change in the revolutions

(Continued on following page)



THESE HOPPERS are three-stories high, holding 30,000 lbs. each; are equipped with vibrators for dislodging material.



CONTROL PANEL provides one-man control of mixing and feeding from four bins.

per minute of the supply belts. Varying the amperage to each motor simultaneously gives better results.

The second forward step which Interstate has taken in smoothing out maximum-capacity production lies in the use of a Miller hammer mill as an accessory to a standard grinder to pulverize tailings and make possible the use of a single screen.

The clay mix after passing through the grinder is elevated to the single screen and all clay too large to pass through the screen is dropped through a chute into the hammer mill mounted beneath for pulverizing and feeding back into the elevator for re-screening. This has meant a decided saving in time and a much finer grade of product.

100 Ton Hoppers

More refinements make themselves known in the brick machine room where 2 three-story 100 ton capacity hoppers, custom manufactured for the plant by the Lang Company of Salt Lake City are installed. Each hopper is provided with electric vibrators for dislodging the material. To guard against occasional packing of the clay beyond the capacity of the vibrator units to loosen it two "portholes" were cut through each of the hoppers, near the center front which provide access for poking into the mass with steel rods and getting the flow underway again.

CLAY STORAGE shed is 150', uses overhead clamshell crane with 1½ yard capacity shown at center above.

In the same category, both of the hoppers feed via rotating discs to the brick machine feeder conveyor, which instead of being of the belt type is an 18 foot long vibrator-equipped stainless steel chute, heated from below with tiny gas burners spread along the length. Maintaining a temperature "warm to the touch" is sufficient to guarantee smooth, even movement of the clay into the pug mill.

No pump has been required for the water spray as the material feeds through the housing into the pug mill. All water is sprayed in from the top as the clay drops through a hood into the pug mill for more even wetting.

The J. C. Steele brick machine is utilized with one refinement being the installation of a recording device to show pressure at the extruding die for the convenience of the pug mill operator.

Plant Kept Clean

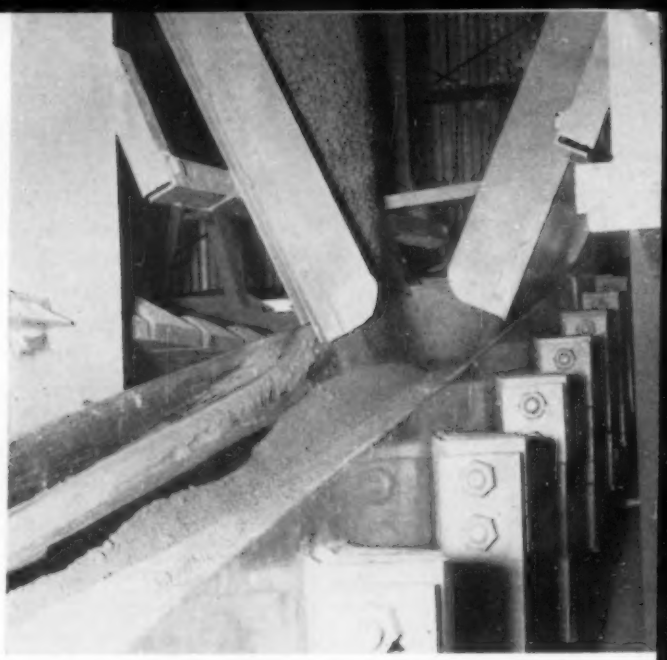
It may be well to mention at this point that throughout its huge plant, Interstate has achieved a degree of cleanliness and eye-appeal which transcends almost any standard throughout the western industry.

From the brick machine a 120 foot

conveyor extends out of the room and into the kiln building, crossing four rows of kiln cars in this area. Many improvements developed by Interstate personnel have been incorporated.

Most unusual is the fact that the return conveyor belt for thin or damaged bricks, instead of beneath the floor or overhead suspended from the ceiling as is usually the practice, travels directly beneath the off-bearing belt for a distance of 60 feet, where it presents no engineering maintenance problem, is out of the way, etc.

At the end of the 60 foot travel, a right angle, sharply slanted chute permits return brick to drop through a trap door in the floor and onto another 60 foot belt, which returns it to the brick machines inclined bucket elevator. Primary advantages are ease of maintenance, neat appearance, and freedom from breakdowns.



VIBRATOR CONVEYOR is heated by gas burners to prevent sticking.

Heat Protection

A long list of innovations appears at the belt unloading point. One of the most striking is the use of an aluminum deck plate which swings on chains from the conveyor belt structure across the kiln car level immediately in front.

Scoop-shaped at the edge, the aluminum deck plates are so arranged that as each kiln car is pushed beneath the off-bearing belt frame, it is automatically dragged up and over the top of the car where it forms a thick heat-insulating surface on which the car loaders work, their feet protected from the high degree of heat which the kiln cars often carry during busy production cycles.

An overhead water-cooled blower provides 7,500 cubic feet per minute of cooled air across the carloading area to maintain a cool working atmosphere, particularly during the hot summer months.

320' Kiln

The 320' Allied kiln occupies the left side of the tunnel kiln building with kiln car tracks for 150 cars on the extreme right. At the north end of the building are the two tunnel dryers, which accommodate 30 cars simultaneously and are equipped with hydraulic pushers for convenient carloading. Heated exclusively by waste heat from the tunnel kiln, the two dryers operate at well over 325° temperature, boosting the temperature well above the average.

As pointed out above, the Interstate management has concentrated on upping production well above the normal level, using the existing equipment—and the high temperature maintained in the two dryers with a comparatively small change in temperature between that of the input end of the tunnel kiln and the dryer, is one of the prominent factors.

Both the dryer and tunnel kiln have been given the benefit of extra insulation which has had some significant effect on heat losses and burning efficiency. For example, in the dryer, the temperature has been increased materially due to additional insulation, and the short overhead travel of the waste heat additionally insulated has resulted in the burning of an average of less than 8,000 cubic feet of gas per 1,000 brick at a temperature of 2,000 to 2,100 degrees F.

The intensified production program is a combination of not only insulation but modifications to the heat imput equipment for a balanced, even increase in heat down the 320 foot tunnel, from 420° at the first thermocouple to 2,100 degrees at the center point.

Additional burners were added, orifices changed, venturi setting advanced or retarded, for the more balanced heat patterns desired. In combination, the changes have made it possible to reduce the standard 54-hour firing period substantially producing maximum quality brick.

Single Control Room

Outstanding in the tunnel kiln room is the single control board which contains all recording instruments for both the tunnel kiln and the beehive kilns, in the original brick plant operating at a parallel location. The control board was designed for complete firing operations under the control of a single fireman, centralized records, etc. and eliminates a lot of cross-steps and extra effort during firing operations.

Other Improvemnts

Many other technique advancements, refinement in equipment and methods have made their appearance as the new plant has passed through its first few months of production.

For example, augers have been replaced with high-chrome alloy steel augers which have given a much longer life, a higher continuous production with less need for replacements. Likewise, Interstate Brick Company has replaced soft corbridge cores manufacturing various cored products with a new air-hardened variety steel produced from machinable steel; these have a very long life with a virtue of wearing evenly until past the point of usefulness, and thus producing an even, standard dimensional hole.

Conspicuous in production schedules at Interstate Brick Company is a predominance of SCR brick, built in standard and 3½ inch units. There has been a sharp increase in the use of the latter by Salt Lake City home building contractors who appreciate the relatively smaller number of operations required in building brick homes. As a result, SCR brick production has been greatly increased.

Long Runs

Interstate produces Roman, Norman, and face brick in a wide variety of colors. Part of the success which has been obtained in maintaining a high rate of production lies in the fact that extremely long runs on a specific type of brick are carried out wherever possible to minimize the amount of changeovers which might be required.

Selling primarily the Utah market, Interstate Brick has consolidated most of its delivery operations with standard flat bed trucks on Fontaine cube-delivery units.

During the past fiscal year, only about one million bricks were package strapped, but currently, the management is busy developing some form of small, comparatively lightweight package of 75 to 100 bricks, which can be delivered with the present delivery equipment of the company, at the same time be more easily handled by the contractor.

Get Maximum Production From Your Tunnel

Tips on how to prevent cracking, bloating and other problems plus ideas on operation for peak efficiency drawn from the experiences of a plant operator and tunnel kiln engineer

by
Briscoe B. Gray

During the last two years, in the capacity of field engineer for the Miller Equipment Co., I have superintended the erection of, fired up, and brought up to capacity output a total of seven tunnel kilns for brick production. I have had exceptionally good results in obtaining peak production of fine quality ware. In all except one instance the designed capacity has been exceeded by from 20% to 50%.

General Rules

The raw materials with which I had to work in the seven jobs consisted of sticky alluvial clays, and shales which ran the gauntlet of special drying and firing problems. I fired shales with high carbon, sulphur, and free silica content; shales classified as schist, and others mainly montmorillonite. With this type of raw material I had to overcome adverse conditions which caused cracking in drying, spalling and bloating in firing, and cracking in cooling.

In each of the firing-up tests the procedure resolved into what could be loosely characterized as using the kiln as a "guinea pig" to attain satisfactory ware.

In analyzing the difficulties and various corrective steps that were taken in the "firing-up" cases, it is possible to deduce a few simple rules, which I believe apply to about 80% of tunnel kiln operations.

In brief, these fall into five main procedural precautions: (1) In drying bring the ware up to a relatively high temperature as soon as possible before commencing drying operations, (2) with the ware thoroughly dry when it leaves the dryer bring the preheat up as quickly as possible to a uniform high heat, (3) use as much of the furnace section as possible for soaking, (4) keep the air and fuel ratio at perfect combustion in the furnace, and (5) in the cooling drop the temperature as quickly as possible to the point of silica conversion, holding at this temperature until the ware in the set has attained uniform temperature—from here the cooling should be relatively slow and uniform.

I should now like to enlarge upon the five conditions enumerated above:

Drying

DRYING: In the ceramic industry it is a proven fact that unless the ware is hot in the early stages of drying, the capillaries in it are constricted and internal water removal is greatly retarded. Also that initial fast surface drying will seal off the internal water, and produce cracking.

As air is the only practical medium for supplying heat to the ware after it leaves the machine, it must be very humid to stop surface drying.

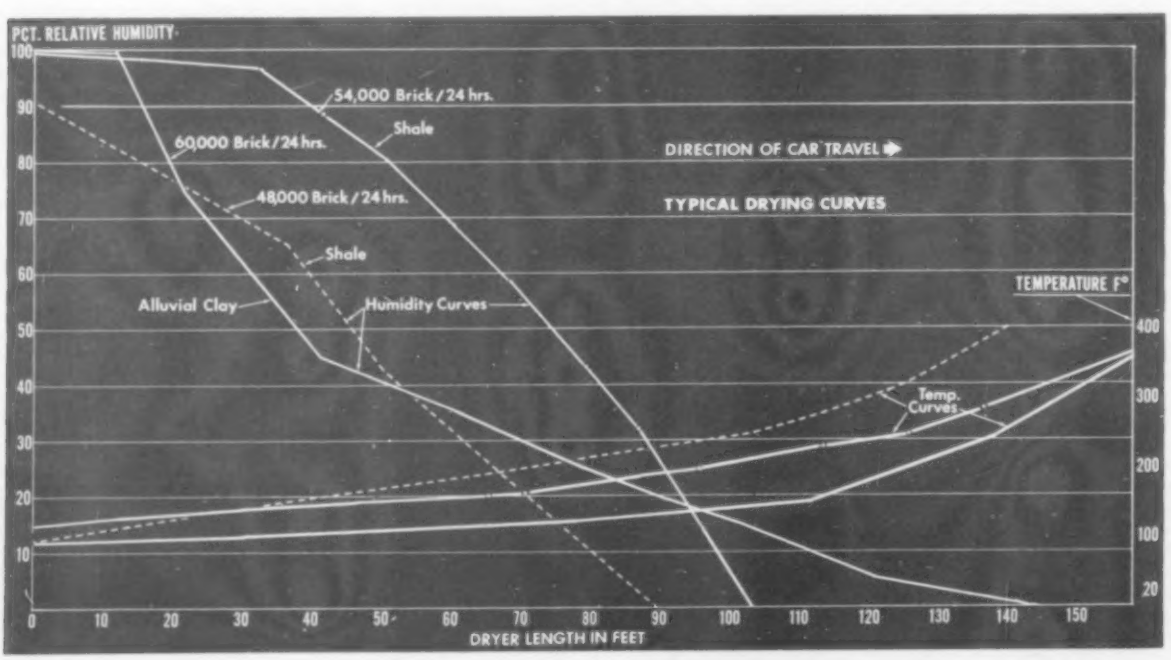
I have found that a humidity as close as 100% as possible, and a temperature of 110° or better as soon as the ware enters the dryer produces good results.

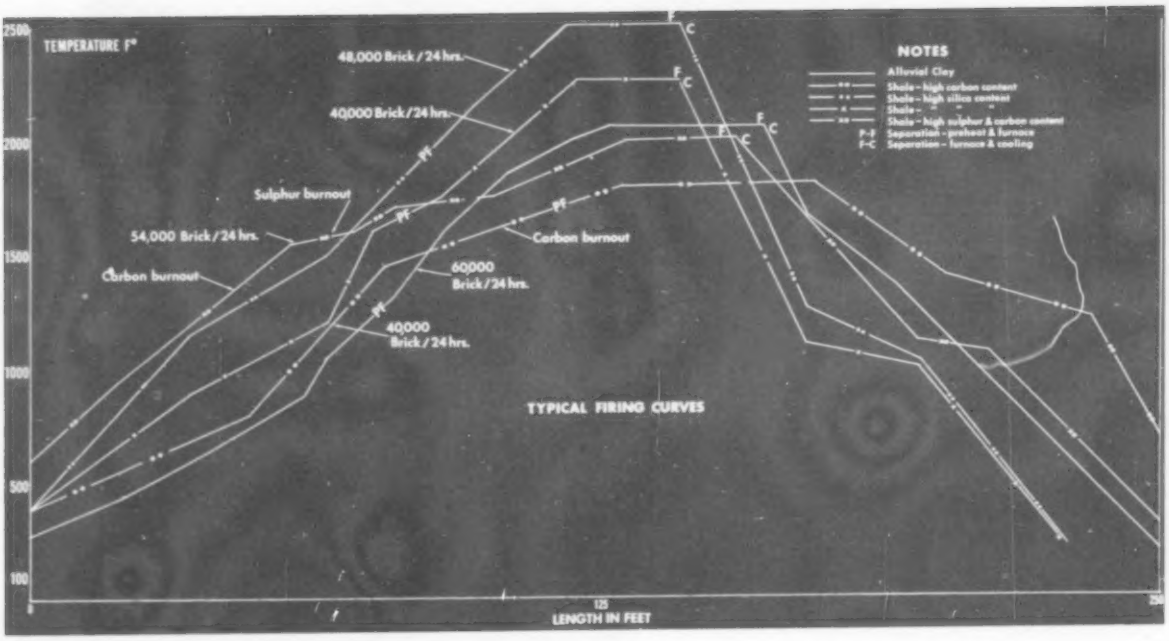
Surface Drying Cause

One of the main difficulties in raising the temperature is that unless an excess of moisture is accumulated from evaporation from the ware as it passes down through the dryer, the introduction of hot air at the dryer entrance will reduce the relative humidity causing surface drying.

In the standard Miller Kiln design there are a series of ducts leading from the dryer supply fan which have damper openings for the purpose of admitting hot air near the dryer entrance. However, on one occasion there was insufficient moisture removal from the ware to bring up the humidity when the dampers were opened. In order to create the proper humidity in this instance it was necessary to install spray devices in these ducts.

Even with this spray the temperature and humidity were not as high as desirable. I believe that an initial temperature of 120° to 150° with high humidity would greatly accelerate the





speed the ware could be dried. To obtain this condition it might be necessary to restrict the quantity of air traveling through the entrance section of the dryer, so as not to remove the moisture too rapidly, and supply heat in some other form at this location; this could be steam or hot water coils, or an air heat-exchanger.

After the ware is thoroughly heated a rapid temperature rise—accompanied by a lowering of the relative humidity—does not tend to injure the ware.

Good Air Circulation

As a final condition to efficient and rapid drying there has to be good air circulation around the ware to remove the moisture from the surface as soon as it accumulates.

Preheat

PREHEAT: In the preheat section the main thing for which I aim is as rapid a temperature rise as the ware will stand. I have never had much difficulty in this respect with shales, but a highly plastic alluvial clay will spall if heat is applied too rapidly. As the chief means of heat conveyance is by convection, this means that the preheat gases should be turbulent.

I generally keep the kiln exhaust damper closed as much as possible in order to get full benefit of the heat. With this setting, if the burners are not placed relatively close together (not over 6 ft. apart) there will not be a uniform rise in temperature. Also a close burner setting will afford proper heat input at locations where there is an exothermic change in the ware.

I have found that it is not necessary to dilute the gases in the preheat section with large quantities of excess air, even where carbon burnout is a problem.

If it is a question of too much heat at the burners impinging upon the ware it is better to obtain a lower flame temperature with an excess of fuel—permitting the air being drawn down through the kiln to supply the necessary oxygen, and the main burning being accomplished as the fuel floats through the ware.

On a Miller kiln supplied with Cros-Flo fans in the preheat I am generally able to bring the ware up to a clear even heat penetration of around 1800° at the time it enters the furnace section of the kiln.

Firing

FURNACE: In the furnace firing, the main procedure is to bring the ware up to finishing temperature as soon as possible. Here again the air should be cut back to the exact combining ratio with the fuels (an orifice meter being used for close control). This produces the hottest flame possible, but at the same time creates a strong updraft along the outside of the kiln. The hot gases then converge at the center of the crown, and descend through the middle of the set.

It is generally a mistaken conception that the hot burner gases are forced into the car top blocks, and then rise through the center of the set. The reverse is true. A tunnel kiln is basically a down-draft kiln.

Furthermore, the burners should be located as close to the table top as possible—this produces a maximum side stack effect, and at the same time creates a suction which will pull the hot gases through the ware.

In the setting of the drafts the kiln exhaust damper is generally so adjusted that the last third of the furnace will be under pressure at the burner level, and a slight drift of air from the cooling section into the furnace. This air from the cooling section is preheated—conserving fuel, and also supplying oxygen for combustion of any unburned gases due to low air in the fuel ratio.

Cooling

COOLING: Best results have been obtained by dumping a large quantity of relatively hot air (around 800°) into the initial quick cooling section. This brings the mass of the ware down to a temperature of around 1100° without excessively chilling the outside courses.

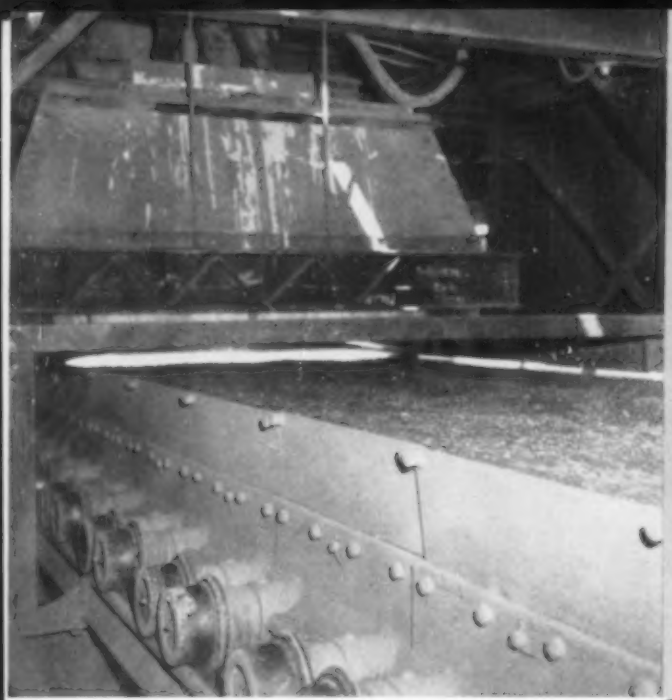
If a portion of the air can be withdrawn so that the travel is counterflow to the direction of the car movement, less time is required to reduce

Continued on page 83

About Briscoe Gray . . .

The author of this article holds a BS degree in mechanical engineering from Geo. Washington University and an LLB and MPL from Columbus University.

After service with the Engineer Corps during the war, Gray and his brother operated the Gray Brick & Tile Co. plant in Bowie, Md. The plant was later sold to LaMond Terra Cotta Works. After selling the plant, Gray joined Miller Equipment Co., and has been with them since, primarily as field construction superintendent.



Lightweight Aggregate
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Virginia's First LW Plant Produces 420 Tons Daily

Plant operates six 24-hour days per week the year around. Product weight 1450 lbs. per cu. yd. is one of lightest in the industry. Plant uses 25% of its product for own concrete block

SINTERING is done on Dwight-Lloyd sintering hearth above left. Pelletizer above is rubber lined to keep dampened clay from building up. Below is overall view of lightweight plant.

VIRGINIA Continued

A portion of the solid fuel used in the sintering process is minus ⅛" anthracite coal which is received by rail. The coal is delivered in hopper-bottom cars and transported to a coal silo by means of a belt conveyor.

The other portion of solid fuel in the sintering process is fly ash, which is also deposited into a silo reserved for this material.

A third silo, built expressly for the purpose of holding the return fines from the sintering machine is located adjacent to the other two. These three silos deposit their contents on the main conveyor belt leading to the pelletizer, by means of belt feeders. Slide gates, located at each feeder, regulate the proportion of each material fed onto the main belt.

Mixing of Constituents

The main belt conveyor delivers the material to a 4-ft. by 8-ft. drum mixer which serves as the pelletizer. As the drum revolves, the minus ⅛" coal, fly ash, shale-clay and return fines are thoroughly mixed. A fine spray of water wets the surface of the mix in the drum and as the wetted particles roll down along the side, they pick up other particles of the charge, causing a pellet to be formed. These pellets then work their way to the discharge end of the drum and onto the sintering grates.

Sintering

A swinging spout above the grates of the sintering machine spreads out the material so that it is uniformly distributed across the grates to a depth of about nine inches. The charge is initially ignited underneath a refractory brick hood in which oil burners are installed, using No. 2 fuel oil.

The 60"x60' Dwight-Lloyd sintering machine is equipped with six wind-boxes, which were originally connected by a duct to a single 78-inch by 20-inch paddle-wheel type sintering fan for pulling the air down through the charge. However, this circulation system was recently redesigned to incorporate an additional fan so that now there are two fans in the system, each pulling on three of the wind-boxes.

Baffle Dust Chamber

Each of the fans is drive by a 350 HP motor and is rated at 45,000 cfm. Incorporated in this recent design change also was a baffle dust chamber system which works on the principle of pressure drop and direction change of air flow. Blast gates have been installed in the duct system to allow production to continue at a slightly reduced rate should it be necessary to shut one fan or motor down for repairs.

The loaded grate moves under the ignition chamber, over the 330 square-foot hearth area at a continual flow, about 8 feet per minute allowing approximately 8 minutes sintering time. The sintering machine speed is adjustable and can be regulated to suit sintering conditions of the charge.

Fines Reprocessed

The sintercake is marked crosswise on two-foot intervals automatically before ignition occurs; this allows the cake to break off on the discharge end in cakes 2-ft. by 5-ft. As the cake is discharged, the fines are collected and sent to the storage silo to be proportioned back into the sintering process. The return fines are needed to control the sintering of this raw material.

Aggregate Processing

The 2-ft. by 5-ft. sinter cakes are dropped onto a 36-in. by 90-ft. apron conveyor fitted with several water sprays to hasten the cooling process. This conveyor feeds the cakes into a 24-in. by 36-in. single roll crusher which reduces the material to minus 4-in. material. A 24-in. rubber conveyor belt sprayed with water conveys the crushed material to a storage pile for final cooling. An underground conveyor system conveys the aggregate from the storage pile to a triple-deck screen where ¾-in., ⅜-in. and No. 4 material is separated.

The tailings from the screens are sent to a surge bin which feeds plus 1-in. material to a cone crusher and minus 1-in. material to a smooth roll crusher for return to the screen.

At present, the company is engaged in making the three sizes of aggregate commonly associated with the industry. As such, any combination of these three sizes can be obtained: coarse (¾-in. x #4), medium (⅜-in. x #4) or fines (#4 x 0). The coarse material is generally used for roofing granules and structural concrete, while the other two grades are used commonly in the concrete block industry.

Six-day Week

According to B. K. Powers, plant superintendent, the plant is now operating 24 hours a day, 6 days each week. Maintenance is accomplished on Monday mornings before the plant begins the weekly operation.

The plant reported here is part of one of the most integrated operations in the industry. Owned jointly by Roanoke-Webster Brick Co. and by Allied Supply Corp., the overall operation includes manufacture of lightweight aggregate, two brick plants, and a concrete block plant. A complete report on the integrated operation of all three of the production facilities was given in the May, 1954 issue, page 35.

The shortage of cinders and the pressing need for a good lightweight aggregate led Warren Hobbie and John Wise, Presidents of the Roanoke-Webster Brick Co., Roanoke, Va., and Allied Supply Corp., of Charlottesville, Va., respectively, to build the first high-production expanded shale-clay lightweight aggregate sintering plant in Virginia.

Uses Same Material

The plant, located next to the site of the Roanoke-Webster Brick Co. in Webster, Va., is operated by the Virginia Lightweight Aggregate Corp., and utilizes the same raw material for its sintering operation that one of the parent companies uses for the manufacture of brick. Placed in production in the spring of 1952, it markets its finished product under the trade name of "Weblite." The two parent companies utilize approximately 25% of the sintering plant's production for their own use in the manufacture of concrete blocks, with the remainder going to other block manufacturers, lightweight concrete and roofing granule producers.

When the shortage of cinders became apparent, the two companies set up pilot operations on the present site of the sintering plant to experiment with means and methods for the manufacture of lightweight aggregate. All of the preliminary work was done on a pilot machine located at Webster in a period of 18 months. The aggregate produced today is one of the lightest in the field, weighing approximately 1,450 lbs. to the cubic yard for material ⅜" to 0. Utilizing a Dwight-Lloyd down-draft sintering machine, the present plant has a capacity of 420 tons of aggregate per 24-hour day.

The shale-clay deposit is located directly behind the plant and is won by using a tractor-drawn scraper. The strata lies on about a 60-degree angle so that a good mixture is obtained on every pass that the scraper makes. The scraper empties the material into a hopper located above an apron feeder.

Raw Material Preparation

The feeder delivers material to a disintegrator where the preliminary crushing action takes place. A belt conveyor delivers the freshly crushed material to a covered storage shed, capable of holding a five-weeks' supply of raw material for the sintering machine. Blending the shale-clay material is accomplished in the storage shed by means of two movable conveyors in the top of the shed. Should the weather become too inclement for scraper operation, the plant doesn't have to shut down because of lack of raw material.

A front-end loader removes the crushed shale-clay from the stockpile as needed by the plant and delivers it to another disintegrator. At the present time, the material drops directly to a set of smooth rolls for further grinding; however, company officials have plans on the drawing board to install a heated screen in a closed circuit to enable closer control over feed size to the sintering machine. A belt conveyor deposits the ground material from the smooth rolls into a surge bin, the contents of which, through automatic controls, regulate the grinding operation previously mentioned. This surge bin deposits the material upon the main belt conveyor leading to the pelletizer.

(Continued on following page)

AGGREGATE is crushed in section shown at right and moved to storage.

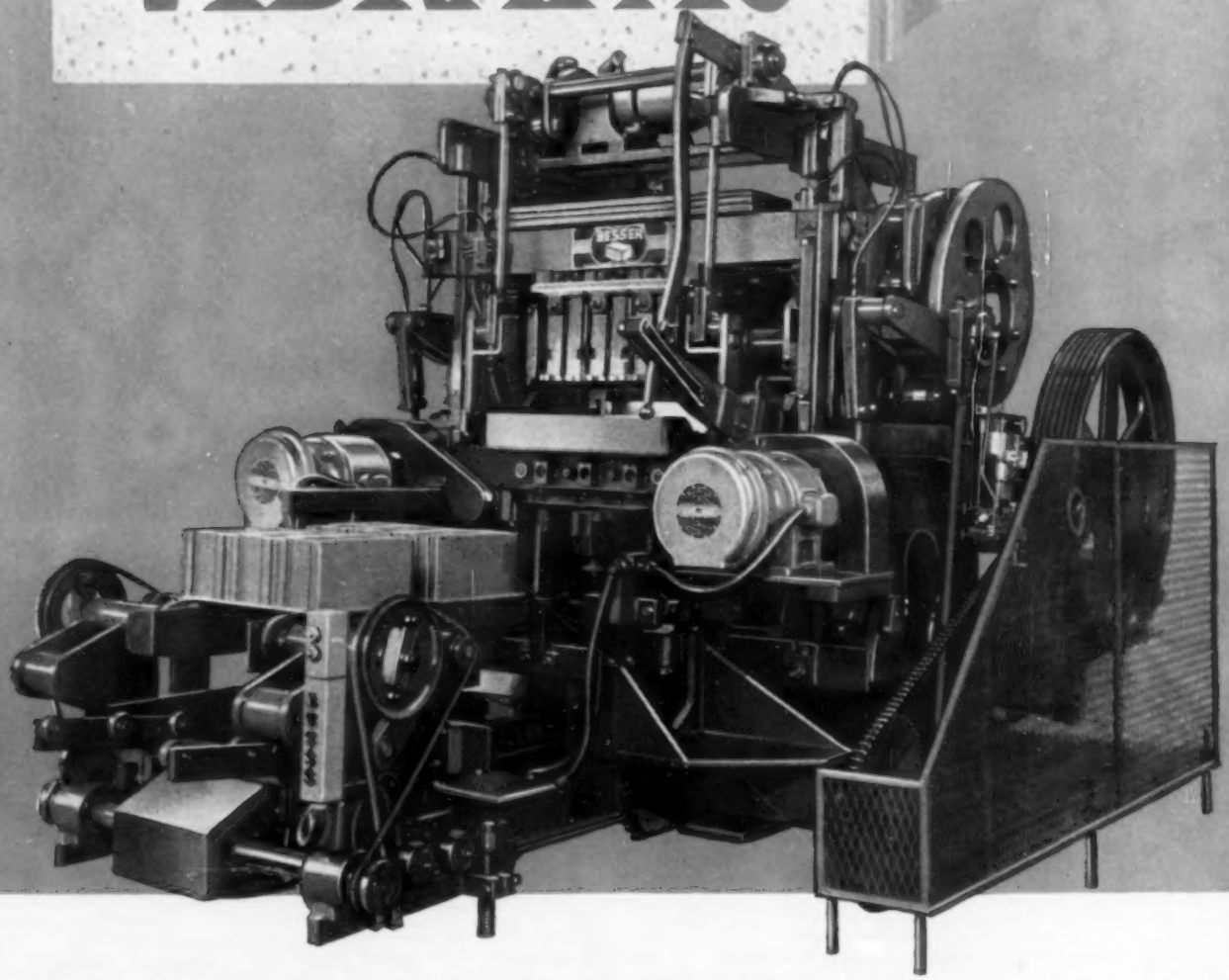
PAYLOADER by Hough is used to move clay from stockpile to disintegrator.

LeTourneau-drawn scraper is used in clay winning operation.

Equipment Used At Virginia Lightweight Aggregate

Clay winning apparatus	Caterpiller D-8 Tractor LaPlante-Choate Scraper
Front-end Loader	Hough Payloader
Heated screens	Link-Belt
Disintegraters	J. C. Steele & Sons
Smooth roll crushers	J. C. Steele & Sons
Pelletizer	Dwight-Lloyd
Sintering Machine	Dwight-Lloyd
Single roll crusher	Stone-McLanahan
Screens	Tyler "Ty-rock"
Cone-crusher	Kennedy-Van Saun
Oil Burners	Hopkins Bros.
Apron Conveyors	Link-Belt
Belt Conveyors	Miller Equipment Co.

BESSER VIBRAPAC



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Mr. Executive:

How Do You Measure Up?

John M. Fox, president of Minute Maid Corp., outlines here what could be the definitive analysis of the qualities that make up the successful executive. He says what American business needs most now is management and he sets forth clearly and forcefully the six main points of the true executive's character: Creative ability, judgment, administrative skill, positive attitude, courage and character. Every present and aspiring executive should take a look at himself through Mr. Fox' capable eyes.

John M. Fox

(Mr. Fox opened his address with a summary of business management in America, citing the change from sole owners of businesses to public ownership through stock purchases. He reviewed the further evolution of business and the increasing incidence of specialized executives, which in turn led to a demand for more all-around management personnel. From his observations of management training courses and the efforts of corporations to train executives, he has formulated six fundamental qualities that must characterize men destined to command in business. We join Mr. Fox' address with his exposition of the first of these six qualities.)

1. Creative Ability. Business is looking for men who can think. There are many synonyms for this quality. It is sometimes called vision; also imagination. Whatever the term, remember that nothing starts without an idea. Ideas are the lifeblood of an organization, a must for success, an essential of all growth. To be a good manager, a man must have the ability to think creatively, constructively and clearly. The leadership role in management calls constantly for resourcefulness: The fast-moving, continually changing pattern of the modern competitive business world demands this quality if success and satisfactory profits are to be realized.

There are many misconceptions about the ability to have ideas. One of the most outrageous statements on the subject I have ever hard came from a professorial friend of mine who said that a man should change jobs and preferably businesses after he had produced 10 good ideas. Yet, it is well recognized now that the brain not only never tires, but becomes more productive and efficient with use. Moreover, no one has yet been able to utilize more than a small fraction of the potential in his brain.

The ability to think creatively can be developed. One of the greatest aids to this worthwhile pursuit is use of our subconscious minds. Those of you who have learned to tap this great human resource know well its value.

I have learned that it is best to feed the elements of a problem to your mind just before you retire. Then while you are in repose that night or perhaps after several nights, the solutions will come to you, almost like magic. And, what is much more important, the solutions will represent clearer and sounder thinking than you can usually produce with your every-

(Continued on following page)

day conscious mind. The old axiom of "Let's sleep on it" is based on this power, and I heartily recommend it to you as a valuable tool in your management kit.

Ask Questions

A few other thoughts on creative ability: Be curious—ask questions—keep an open mind to the other fellow's ideas—and listen. By all means, learn to listen!

Remember, above all, that your superior expects you to bring him solutions, not problems.

2. JUDGMENT. Webster defines this somewhat elusive quality as the "ability to judge justly or wisely, especially in matters affecting action." It is also described as "good sense." Men who are destined for leadership must be men who can make sound and wise decisions.

This sound thinking qualification goes hand in hand with the creative thinking attribute. Sheer brilliance of innovation and invention can be disastrous without a counterbalance of common sense.

I had a superior early in my sales career who was quite famous throughout the company as a trainer of men. He had an impressive record of raw college graduates who had started under his tutelage and become high producers and often good managers in a remarkably short time. One of his pet aversions was people who would not "use their heads." Instead of solving our problems for us when we came into his office with one, he would tell us to turn around and read aloud the sign tacked above his door: "As a last resort use common sense."

There have been countless examples of great, earth-shaking fiascos that came about because someone in the key position failed to use good judgment—forgot the fundamentals of simple common sense.

The inventor of the modern self-service store, Clarence Saunders, fell into this trap not many years ago. After his spectacular success with the Piggly Wiggly stores, forerunners of all of today's supermarkets, he went overboard for the completely automatic grocery store.

He called it the Keydoozle store. It worked something like this: As the customer entered, he was handed a little metal gadget that looked like a pistol. The merchandise was racked around the store on display as single units behind glass panels. Under each item there was a keyhole-like aperture into which the customer poked his pistol-like key. He would pull the trigger once for each item he wanted.

Judgement Failure

This action would record on a punched tape the price of his purchase and set up the "backstage" machinery to assemble his order on a conveyor belt. By the time he had made his selections and walked to the cashier, who would run the tape from his hand machine through a computer, the entire order would be assembled and boxed and waiting for him in the front of the store.

Quite an idea! No pushing carts around a block-size amphitheatre. Space would be conserved. Time would not be wasted at the checkout counter. Labor would be saved because hard-to-maintain mass displays would be eliminated. In principle it was great, but the idea was a huge flop. Why? It took more maintenance men to keep all the machinery running than any store operator could afford, and even then it would invariably break down on Fridays or Saturdays during the heaviest shopping hours. The resulting chaos made it a joke.

Is Judgment Inborn?

Is judgment something people are born with? I think not. I go along with an old college professor of mine who once lectured the class on how to develop judgment. He advised that we should take every opportunity that presented itself to practice and exercise our judgment. He recommended that we study public issues currently under discussion in Washington. Read all we could about them. Read the commentators' and columnists' opinions, but reserve our decision until we had gotten both or all sides of the argument.

Then, carefully weighing the evidence, the facts and the opinions we had uncovered, we should make up our minds on the issue. We should write down our considered position. Later, when time had finally brought the right answer to light, as it nearly always does, we should compare our position with what specifically turned out to be right.

"This practice, if started early enough in life, and continued for as long as you live, will develop wisdom without the price of expensive mistakes," my professor said.

A final thought on this matter of wisdom. A negative, fault-finding approach is not a substitute for judgment. Every new idea can be killed at birth by a superior who sees nothing but reasons why something won't work. Enthusiasm and a positive attitude are important elements in the balance required of a leader whose judgment and decision-making activities will be tested from the day he assumes important responsibility.

Men Who Can Plan

3. ADMINISTRATIVE SKILL. The good executive must be able to foresee the needs of his operation—to forecast its requirements in manpower, materials, money and time. He must have the ability to resolve these needs into a practical and understandable program. Modern business must have men who can plan.

This is the unglamorous side of the manager's job. It requires painstaking concern over a multitude of details; it requires more than a little "i" dotting and "t" crossing; it requires concentration and vigilance; above all, it requires an orderliness of mind

(Continued on page 85)

The Executive Problem

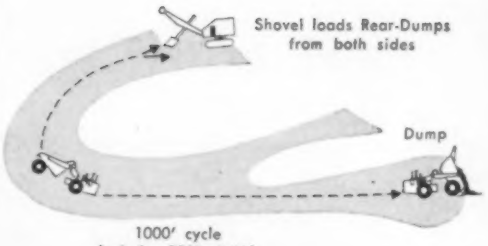
As American industry continues to expand, one problem becomes increasingly important. That's training and locating the executives for the future, plus improving the quality of your present executives.

The same principles of management and administration apply to all businesses. From president to superintendent of your clay plant, all the ideas and rules presented in the accompanying story can be of real value. The president should check his work against these ideas, and the future executive should consider them and begin practicing them now and all through his career.

This article is presented for these reasons by BRICK & CLAY RECORD with hopes that both present and future executives of the heavy clay industry will be benefitted.

Next month, and for months to come, we'll report fully on the much talked about idea of "brainstorming" . . . how it's done, why it's done, what it can do for your company. Watch in the March issue for "What's This BRAINSTORMING All About?" by B. B. Goldner, PH. D., Director of the School of Creative Thinking, LaSalle College.

Haul heaped loads over slippery clay footing at Georgia Coating Clay Co. Pit



1000′ cycle
Includes 200′ of 6% uphill grade to dump

Within the year, Georgia Coating Clay Co. will produce 90,000 tons of kaolin at Pit #5 — one of their 5 mines in the Macon, Ga., area.

At this pit, 11 miles east of Macon, a 1½-yd. Koehring shovel and two 11-ton D Tournapull Rear-Dumps are stripping a 25′ layer of sand and red clay to expose rich kaolin deposits.

Hauls 7 yds. per load

Shovel operator heaped 7 yds. of overburden into Rear-Dump's wide (5′ 10½″) bowl in 1 min., 7 sec. Although rains made clay haul roads wet and sticky, each Rear-Dump consistently hauled heavy loads 500′ to dump site in average of 1 min., 24 sec. Haul included 200′ of 6% uphill grade out of the pit. On the dump, "D" backed in, spotted and dumped in 8 sec. Then, it pulled away and returned over same, slippery haul road to complete 1000′ cycle in average of 3 min., 49 sec.

According to Mine Supt. Frank Fountain, when clay road was dry, Tournapull Rear-Dumps cut cycle time to 3 minutes . . . increased production at the pit by one-third.

"Outstanding in rock"

Tournapull Rear-Dumps were moved to this tough stripping assignment, at Pit #5, after they profitably stripped 90′ overburden at Georgia Coating's other pits. Fountain said, "We were in trouble at this pit until we got these Rear-Dumps, and they brought us out. They did outstanding work in both tough rock and 'water sand'. I like 'em 'cause they're easy to maneuver under a shovel. They can pull themselves out of the soft dumps easy, too."

"D" scraper . . . valuable pit tool

Georgia Coating also uses a D Tournapull scraper on exploratory stripping operations. Besides stripping, versatile "D" loads, hauls and spreads sandy topsoil over the slick clay haul roads to speed hauling operations.

3 sizes; interchangeable work units

Tournapull Rear-Dumps are available in 3 sizes: 11, 22, and 35 tons. All can be interchanged with other trail units for year-round specialized work. Call or write for full specifications.

At a flip of a switch, operator activates electric switch to raise Rear-Dump body into dump position. Streamlined bowl sheds material fast. Note exposed kaolin in background.

Stripping 25′ overburden, shovel operator easily heaps good load into Tournapull Rear-Dump. Low rear-entry permits quick swing-out of empty dipper with door open.

D Tournapull scraper self-loads, hauls, and spreads topsoil over sticky roads to provide more traction for haulers . . . handles variety of pit jobs including exploratory mining.

Tournapull—Trademark Reg. U.S. Pat. Off. DRDP-1059-Q-b

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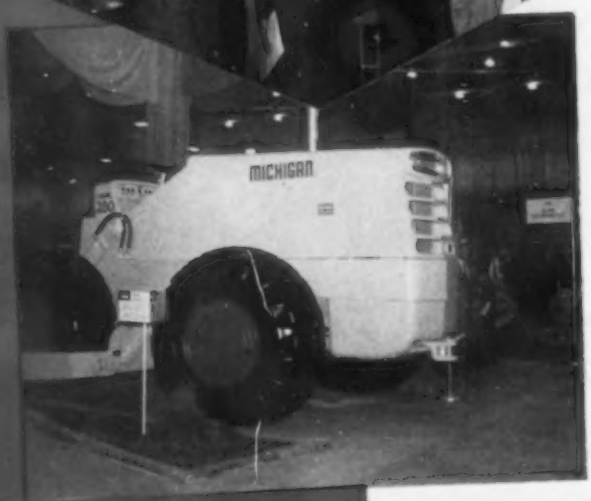
ROAD SHOW comes to CHICAGO



Hundreds of pieces of new equipment were displayed in January at the Road Show in Chicago, with many exhibits featuring Brick & Clay Record advertisers and their displays.

The federal road-building program will mean a great deal to the clay products industry. For instance, to build the first 41,000 miles will require 300 million brick for the rest stations alone. Also, each rest station will have facing tile on the interior.

To drain the stations and much of the road will require something like 2,040,000 linear feet of clay pipe for each $1 billion spent on roads. How much structural tile, conduit pipe and other clay products will be needed in addition to the above has not yet been determined.

In the March issue, Brick & Clay Record will show more pictures of the road show and discuss why the road building program is important to clay products manufacturers. Watch for this article.

Visitors (top left) study Koehring exhibit.

Michigan's 280 model was on display.

New Payloader tilts for service (bottom left picture).

LeTourneau-Westinghouse Model D Tournatractor (below).

300,000,000 Million Brick, Millions of Feet of Pipe Will Be Needed For Federal Highway Program

The "Solid Gold" Terratrac, at left, is shown by Marc B. Rojtman (left) executive vice president of J. I. Case Co. to Case distributor Richard Walkem.

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What to Look for in Used Lift Trucks

by
R. F. Moody
Hyster Company

When a used lift truck is being considered for purchase, both its basic specifications and its operating condition should be carefully analyzed before a commitment is made. A reputable dealer will provide invaluable assistance, but in most instances, the potential customer knows his requirements and his plant far better than any outsider. Being aware of the factors to consider, he will be in a better position to advise the dealer of his needs.

Why Buy Second-Hand Equipment?

Of the numerous reasons, one is most important, lower first cost. The amount that can be saved by purchasing second-hand equipment depends entirely on the individual truck. Generally, used trucks are offered under one of two conditions, "as is" or "rebuilt".

How to Get the Right Truck

The first requirement for a lift truck — either new or used — is that it be adaptable to the job the prospective buyer has in mind and that it be capable of operating efficiently in his plant, yard, or warehouse. Therefore, the same basic conditions that must be analyzed when selecting a new truck apply also to a used one:

(1) Obviously the truck must have the rated capacity to lift the loads in the potential buyer's plant. Most buyers like to obtain a machine rated at somewhat higher capacities than the maximum size load that they normally encounter just in order to be safe. This is good practice, but there is a limit, for the efficiency of a truck is greatest when the loads that are handled are closest to the machine's rated capacity. Operating costs, too, are less.

But, capacity is not the entire story. Trucks are rated at a capacity of a given load center, generally 24 inches. This means that if the normal load is wider than 48 in., the truck capacity is decreased. So, this is an important factor to check — namely, rated capacity at the required load center.

(2) Other basic considerations are lowered mast height and truck stacking height. On occasion, buyers have purchased lift trucks only to find that the lowered height of the machine was higher than their doorways and thus that there was no way to get the truck from one area of the plant to another.

(3) The amount of under-clearance affects the areas in which a truck can be used, and here there are two requirements—namely, the under-clearance under the uprights and also under the center of the frame.

(4) Floor loading is important, particularly in older plants, so the total weight of the truck with and without load should be considered before purchase. There is actually no way of quickly determining the structural capacity of an old building other than to refer to construction prints if they are available, or to make a survey.

(5) Finally, the type of tires that are on the truck govern to a large extent where it can be used. Solid tired machines, for example, are not adaptable for outdoor use. Pneumatic tired machines can be used either in or out of doors, as can, to a lesser extent, a solid-cushion machine. Again, these are points to consider when looking at a second-hand truck.

Determining Truck Condition

Over and above the factor of ability to meet a given requirement is the mechanical condition of the truck being considered. There are many points that should be checked here, perhaps the most important of which is that the purchaser buy from a dealer who represents a well-known and reputable lift truck manufacturer. But more than that, any dealer likes his customers to know precisely what he is getting. There is less possibility for misunderstanding . . . both parties to the transaction are satisfied after the sale is made. Among the things that can be checked are the following:

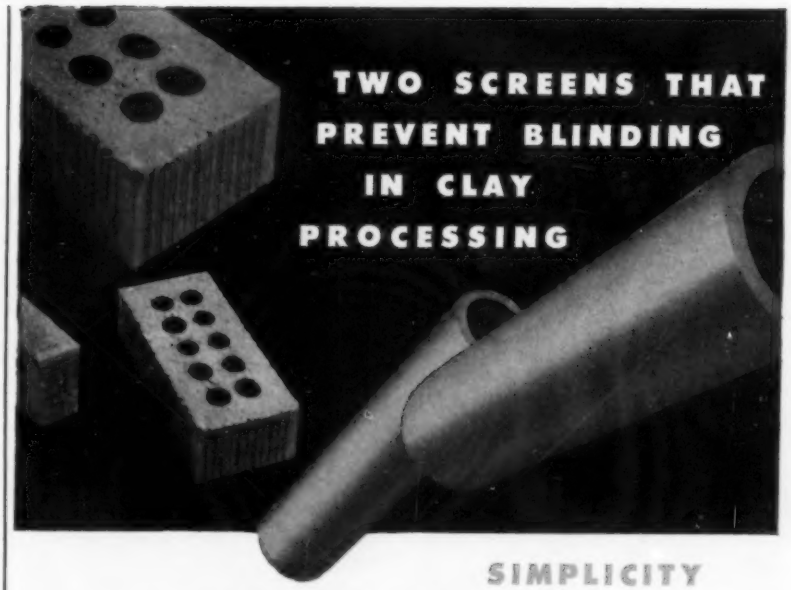
(6) If the truck has been reconditioned and warranted, obviously used parts are available. If, however, it is offered in the "as is" condition, the prospective buyer should determine whether replacement parts can be obtained. Depending on the manufacturer, service parts generally are available for machines ranging from 10 to 20 years old.

(7) The manufacturer's name is an important consideration. Some trucks were made in earlier years that are no longer on the market.

(8) A rebuilt truck, of course, is usually in better condition than one that is offered "as is". Generally, it has been steam-cleaned and painted; the frame has been repaired by welding, if necessary; it has a new clutch and new brake lining; the engine has been rebuilt; the hydraulic system has been overhauled; wheel bearings have been checked and packed; tires are in good condition and other components have been checked and repaired. In some instances, however, an "as is" truck is an excellent buy; unusual circumstances may have required the former owner to trade it in. If his name can be determined, ask him.

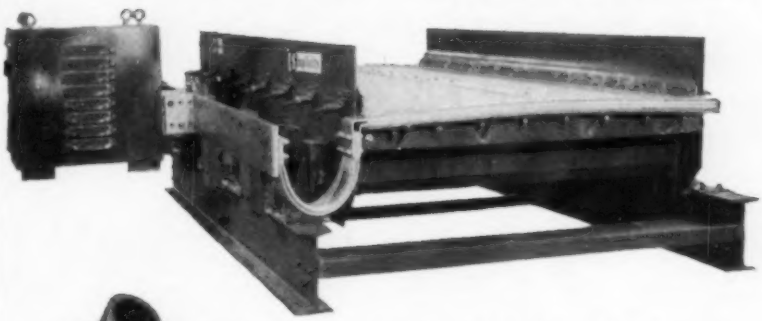
(9) Most used trucks do not come equipped with attachments other than forks. This, of course, is not always the case. A machine may have mechanical or hydraulic attachments which, if they can be used, are a "plus" in the sale.

(Continued on page 83)



SIMPLICITY

BALL TYPE AND HEATED TYPE



Everyone screening clay is familiar with the problem of blinding. Sticky, moist clay clogs the holes in the screen, building up on the wire to the point where production, if not actually stopped, is severely slowed. Fortunately, Simplicity engineers have developed two efficient ways to eliminate this expensive production slowdown. The first is a screen that employs bouncing rubber balls trapped between the screen itself and a coarse-mesh deck below. The vibration of the screen agitates these rubber balls, and they knock the clay loose from the wires no matter how wet the clay may be. The Simplicity Ball Type Screen is most effective with square openings of ½" or over. For prevention of blinding in screens of less than ½" square opening, Simplicity has designed a Heated Screen which operates off a special dustproof transformer. This Heated Screen does not dry out the entire mass of the clay, but only that portion which directly contacts the mesh wires. This eliminates buildup and blinding. Simplicity Heated Screens have proven in numerous rough applications that they reduce production delays to almost nil. For all the details on these screens or other Simplicity conveying, screening, or feeding equipment, write us today.

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Look to your AIM* . . . Schneider Brick and Tile did . . .

Packaging idea speeds brick from kiln to job site

Acme Steel Company has prepared a detailed step-by-step moving picture on packaging clay products. Your Acme Idea Man will be pleased to show this film, "Packaging Brick for Profit," in your office, at your convenience. Let this idea-packed presentation give you clues to cutting materials handling and packaging costs on your operations. Merely write or call your Acme Idea Man to schedule a showing.

Acme Idea Man G. D. Fortson is typical of the Idea Men available for packaging problem solutions.

THE SCHNEIDER BRICK AND TILE COMPANY, Slidell, Louisiana, sought an idea for paring the time and labor costs in handling brick between kiln and customer. Working with their Acme Idea Man, Schneider developed a method of packaging brick with Acme Steel Strapping. (Idea No. S3-18)

With Schneider's new procedure, brick is pattern stacked on jigs and steel strapped into packages of 500. Then from stacking jig to job site, all materials handling is done by lifting devices which move the 500-brick packs to and from storage, onto delivery trucks and to the designated spot on the customer's job. The operation simplifies inventory, improves storage efficiency, speeds truck loading and delivery.

***Look to Your Acme Idea Man** for help with your brick packaging, handling and shipping problems. He'll show you how the same strapping equipment can be employed to strap 75- 100- and 500-brick packs—whichever is best for your requirements. Contact him at your nearest Acme Steel office, or write: Dept. BES-27, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Avenue, Toronto 13, Ont.

ACME STEEL **STEEL STRAPPING**

LETTER Continued

Clay Block Road

Editor, BRICK & CLAY RECORD—In the editor's message in your Dec., 1956 issue (page 33) you advise one to contact Nat'l. Academy of Science and the American Association of State Highway Officials in regard to having clay block tested in their expeimental road. Not knowing where these associations might be found, please furnish their addresses in order to add another voice in the chorus of demands that clay blocks be included.

George Puddington,
Birmingham, Mich.

Ed. Note: The address of the Nat'l. Academy of Science is Constitution Ave. & 21st St., Washington, D. C. The Association of State Highway Officials is 917 Nat'l. Press Bldg., Washington (4), D. C. You might also write your area congressmen and senators to help push inclusion of clay block.

Correction

Editor, BRICK & CLAY RECORD—This is to advise that an error was made in the December issue (page 19) . . . concerning our Pug Mill Mixer. The pictue as shown is not our mixer, however the word description is correct.

W. E. Cayse Jr.
Lindcraft Corp.
St. Louis, Mo.

Ferro Corp. Buys American Clay Co.

Ferro Corp. of Cleveland will buy the American Clay Forming Co. of Tyler, Tex., for about $1 million according to an announcement by Ferro president C. D. Clawson.

The acquisition was to be effective Feb. 1. Clawson said that American Clay will operate as a Ferro subsidiary.

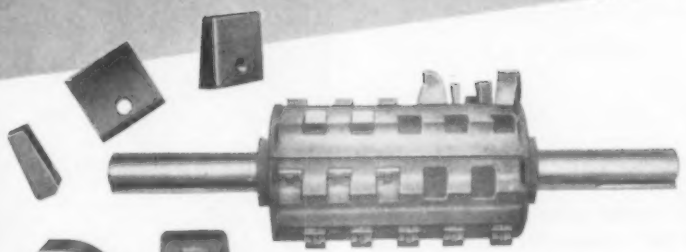
GAT Announces Development of New Cement Process

General American Transportation Co. has reportedly developed a process for cement manufacture which, if successful, might have an effect on cement production "comparable to the cracking process in petroleum refining," according to Sam Laud, chairman of the company.

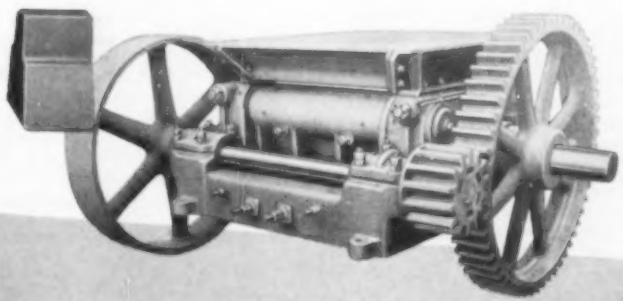
Laud said first patents on the process will be available.

The process already has progressed successfully into the pilot plant state, but final evaluation of the process must wait upon large scale operation, Laud says. Engineering for the large-scale setup is now underway.

Why Scrap a Crusher Roll Simply Because the Teeth Wear Out?



Renewable Teeth—Long Life Roll



Unlike old-style, solid-cast crusher rolls, MECO Pioneer Crusher rolls remain as good as new even though teeth wear out or break!

When teeth wear out, merely remove them from the roll . . . wedge-lock new teeth in place . . . and the crusher works on.

Refitted teeth, as firmly seated and as strong as if cast or bolted to the roll, multiply the life span of Pioneer Crusher rolls and greatly reduce maintenance costs.

MECO Pioneer Crushers . . . the result of 45 years' experience in the Ceramic Industry . . . provide material uniformly crushed to the desired size. This helps reduce over-all operating time and takes excessive wear and tear off dry pans and grinders.

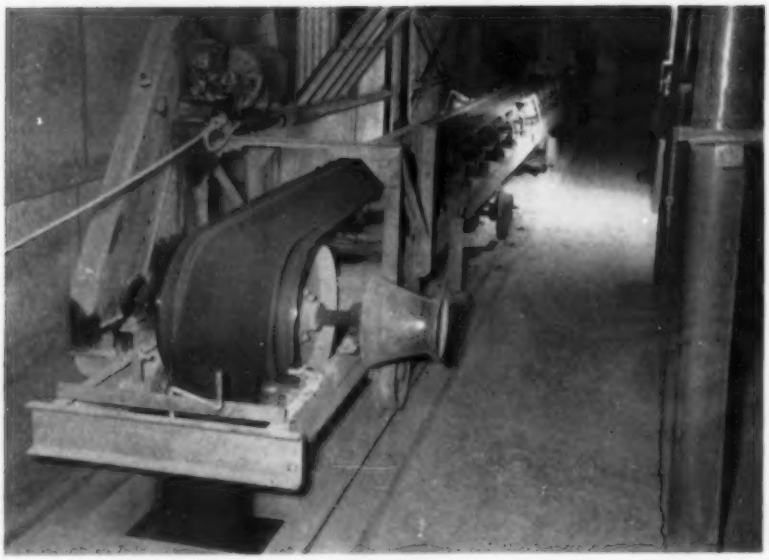
Available in 15 sizes with capacities ranging from 10 to 420 tons per hour. For more detailed information, write for bulletin No. CR-S-10.

MECO

THE MANUFACTURERS EQUIPMENT COMPANY

218 MADEIRA AVE. • DAYTON, OHIO

Hints on the proper installation of a belt conveyor, causes and remedies of belt wear along with tips on maintenance.



Follow These Tips For Longer Belt Life

1. Select Proper Belt

Choose a belt that is designed for the materials to be carried, temperatures encountered, and tension required. There are several types of standard conveyor belts available today but they all have a similar construction consisting essentially of a carcass and a cover.

The belt carcass is made up of one or more plies of cotton fabric duck in which the lengthwise (warp) threads are woven over and under the cross (filler) threads thus giving a distinctive elastic quality in the direction of travel. The warp threads provide the primary strength of the belt. Duck is specified by the weight per linear yard (42" width) such as 28 oz., 32 oz., etc.

Covers for conveyor belting are compounded of natural and synthetic rubber together with other ingredients which vary according to the service for which the belt is intended. A smooth rubber surface is normally used and is furnished in various thicknesses to resist heat, abrasion, chemicals, cutting and gouging.

2. Design Supporting Structure

Check the diameter of pulleys, spacing of idlers, take-up mechanism and the loading point. A number of new and unique ways of buying conveyor belts have been devised in recent years. The best known of these is the packaged, prefabricated, self-contained belt unit. These are made in standard lengths, generally in 5 and 10 ft. increments with motor, gear reducer, pulleys and idlers. Any normal length can be obtained, with very little engineering needed, by merely bolting sections together. Packaged units can be extended or shortened, within limits, to meet changes in product or process changes.

3. Correct Storage

If the belt is not installed at once, it should be stored away from sunlight, hot pipes, stoves, radiators and in places where it is not likely to be damaged accidentally.

4. Avoid Handling Damage

Belt maintenance begins even before the belt is installed. When received by truck or railroad from the manufacturer, it should be skidded, rolled or lifted, never dropped. If the belt falls on a stone, tool or track, a cut or puncture may result. A large roll of belt may weigh several tons and will develop a surprising impact over the area of contact, enough to weaken the belt.

5. Plan Installation

Installation threading of the belt over the idlers and pulleys is critical and much belt damage may occur during installation. More than ordinary care and planning are needed. Avoid sharp bends. Minimize dragging over sharp, rough edges. Don't twist sharply. Before the belt is run, check for tools left accidentally on the return side. Don't use excessive tension in pulling the belt over the idlers and pulleys.

6. Check Belt Alignment

The supporting structure should be aligned with a transit. Edge wear is considered by many specialists to be one of the chief causes of short belt life, and misalignment is a large factor in edge wear. It is absolutely essential for long belt life that the belt carriers be correctly aligned. It generally pays off in terms of increased belt life to take considerable time and trouble to secure as close to perfect alignment as possible. Reducing edge wear usually means a reduction in power.

7. Strive For Ideal Loading

One of the basic requirements for long belt life is that the material falls on the belt while moving in the same direction and at the same speed as the belt. The material should be directed to the center of the belt, not toward one side. Material falling on the left side will make the belt ride out toward the right and vice versa. As a result, the belt will not train properly and will rub against guard boards and training idlers, if used, increasing edge wear.

8. Avoid Impacts From Lumps

When lumpy material is being carried, an attempt should be made to have such material cushioned by a prelaid layer of fine material. A screen or "grizzly" at the bottom of the loading chute will satisfactorily deposit a layer of fines over the belting, thus providing protection against bruising. In some instances an oval or fish tail notch cut in the lip of the chute will aid in prelaying the fines. At the same time, the velocity of loading-material flow should be controlled by pitching the loading chute properly. If this is not feasible, a baffle of iron or wooden bars should be constructed in the chute, suspended

from the top and free-swinging at the bottom, to reduce the velocity of material flow onto the belt.

9. Use Impact Idlers

Material should not strike the belt directly above a solid pulley because the resulting hammer-anvil action will quickly render the belt unusable. The chute should be located so that material will strike the belt between idlers. However, in cases where heavy material is being loaded, it may be necessary to load directly over rubber covered or pneumatic idlers.

In some cases, impact load between idlers will set up belt vibration. Resultant chattering may depress the belt sufficiently to allow material to escape under the skirt-boards. This may be prevented by locating the chute so that loading material will strike the belt far enough ahead of the tail pulley to allow insertion of at least one belt-steadying carrier pulley. Also, carrier pulleys should be more closely spaced around the loading zone because of the impact loading of the belt at that point.

10. Design Rugged Loading Chute

The loading chute should be a permanent, strong, securely fastened device. Avoid jerry-built, "baling-wire" contrivances which may loosen and drag on the belt.

11. Guide Material With Skirt Boards

Construction of loading chute skirtboards and flexible skirts should be carefully considered. Skirt-boards should not touch the belt but should be positioned slightly above the belt. They should be long enough to settle the material before it leaves the loading area. Flexible skirts are preferably improvised from rubber-covered remnants of belt. These remnants should be placed so that the rubber-covered edge is next to but not touching the belting.

Should this be reversed, and the exposed fabric edge of remnant placed against the moving belt, grit will collect in the fabric. Resultant abrasive action will, in time, wear a track through the belt cover.

Vertical spacing between chute skirtboards and belt should increase toward the open end of the chute. Thus the width of flexible skirts, as cut from a belt remnant, should decrease in the direction of belt travel. This construction minimizes spillage around the loading point. At the same time, wedged-in lumps of material will work themselves free by the forward motion of the belt.

12. Fix Responsibility For Belt Maintenance

Authority and responsibility for belt maintenance should be delegated to one man, who with his assistants, at frequent intervals checks lubrication, condition of idlers and pulleys, examines the belt for excessive wear, inspects splices, and repairs cuts and tears as soon as discovered.

13. Inspect Belt On Schedule

The "belt-boss" should inspect the belt at regular intervals, to discover small rips, tears, worn spots before any real damage occurs, and pays particular attention to the splices.

14. Maintain Belt Repair Kit

Tools, splicing fasteners, rubber cement, patching rubber, rip plates should be kept ready at all times for making belt repairs, at once, as soon as found.

15. Cover Return Side With Deck

Even in the best regulated plants, some material falls off the carrying surface of the belt onto the return run of the belt. If not removed, severe damage to the belt will occur when it travels around the pulley and the misplaced pieces are squeezed between belt and pulley. Brushes and scrapers are often used, but the best solution to the problem is to completely cover the return side of the belt with a wooden or metal deck.

16. Cover Belts

When a permanent installation is made out-of-doors, it will pay to cover the belt with a wooden or steel structure. This will keep off direct sunlight and rain, both of which have damaging results.

17. Keep Cost Records

Continuous records of maintenance and repair costs against tonnage carried will indicate service quality.

18. Lubricate Wisely

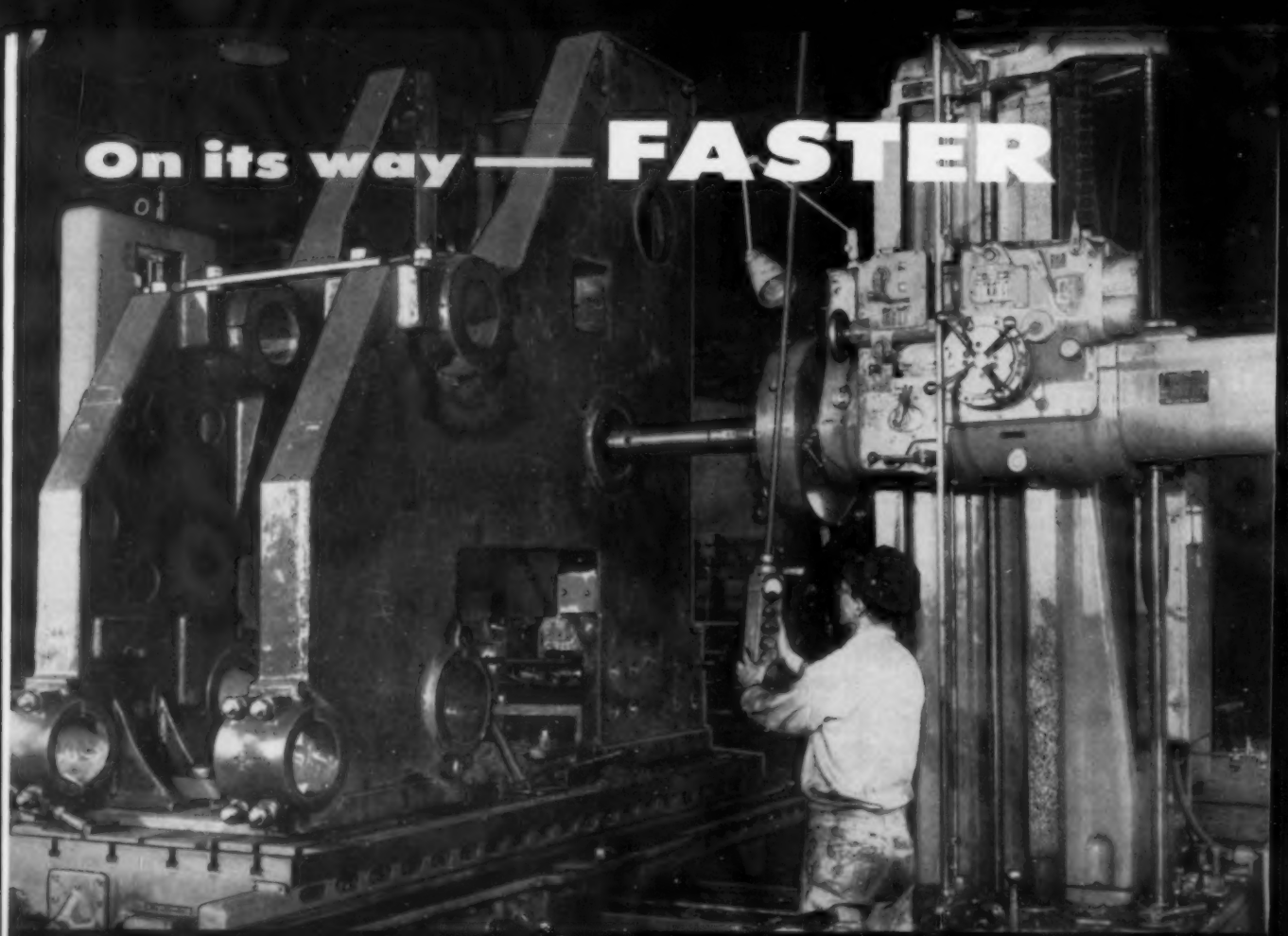
The "belt-boss" should also check the belt for oils and greases which should be removed. Avoid over-lubrication of pulleys and idlers which will smear the belt and shorten its life.

19. Interconnect Conveyors

Provide a means of automatically shutting off all preceding belts in a series to prevent pile-ups of material if a following conveyor stops.

20. A "Bakers' Dozen" Safety Rules For Operating A Conveyor Belt

1. Locate shut-off switches frequently to stop belt quickly in emergency.
2. Interlock belts to avoid pile-up of material. If one belt stops, all preceding belts stop.
3. Guard chain or V-belt drives and other working parts near operators.
4. Protect cross-overs for personnel.
5. Repair tears, breaks at once.
6. Inspect belt frequently to detect imminent breaks especially at splices or at fasteners.
7. Inspect idlers for lubrication. A frozen idler may cause belt to burn or tear.
8. Operate belt at speeds consistent with the work performed.
9. Do not permit personnel to ride on belt.
10. On long belts not visible over entire length, install controls which prevent movement during repairs.
11. Equip belt with means for harmless discharge of static electricity.
12. When handling dusty materials, control dust at transfer points with exhaust hoods.
13. Don't leave tools on belt after installation, maintenance operations or repairs. Tools left on return side of the belt will be crushed between belt and pulley with damage to belt, tool and even the pulley.

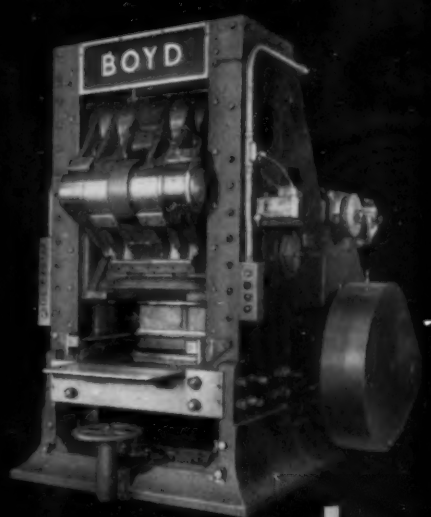


the best BOYD PRESS yet...

Things are happening at Chisholm, Boyd & White. A major expansion of our production machining facilities is now helping us to produce *more* Boyd Presses, faster—to meet industry's surging demand for dry press refractory.

For example: Precision boring of the press frame for bearings and shafts—an important machining operation, has been speeded up and put under even closer tolerance control. As shown above, the operator can now handle the whole press frame on the bed of this big precision boring mill.

Yes, the best and newest of the machine tool trade has been put to work throughout the machining, handling and assembly of the Boyd Press. *Things are happening at Boyd* . . . to insure our customers that each press shipped is better, more dependable and will produce more brick, faster than the last one they purchased—whether that be five or *fifty* years ago.



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NEWS OF REFRACTORIES

TRI Factory Operators To Meet February 28

The TRI Factory Operators Meeting this year will be held in Youngstown, Ohio at the Pick-Ohio hotel on February 28 and March 1.

E. Avery Williams, charge of operations for North American Refractories, will be the chairman. Plant tours will be made of the Niles (Ohio) Fire Brick Div. of Mexico Refractories Co.; General Refractories' plant at Warren; and the Harbison-Walker plant at Windham.

Metsch Refr. Burns, To Be Rebuilt

Metsch Refractories Inc., which suffered complete destruction by fire January 9, may be rebuilt "immediately" according to Fred Beadle Jr., an officer of the corporation.

Beadle estimated loss from fire at over $75,000, including some $2.500 in stock and the remainder in machinery and the building.

The Metsch firm, in Chester, W. Va., has not yet disclosed what type of building will be constructed. Cause of the fire is believed to be an overheated kiln.

American Fire Clay Buys 10 Acres

American Fire Clay & Products Co., Youngstown, Ohio, recently added to its expansion work by purchasing 10 acres of land in Canfield township. The company has added some 250 acres of other land in the last month or so, and now has 900 acres.

Republic To Build 2nd Furnace at Gadsden

Republic Steel Corp., has announced it plans to enlarge its expansion program at the Gadsden, Ala., plant with the addition of a second electric furnace soon.

An electric furnace now being built at the plant will expand present capacity by 25% and addition of the second furnace will make the ingot increase about 50% by the time the latter furnace goes into operation late this year.

Mex-R-Co Establishes $28,000 Scholarship Fund

"You can call this our personal response to the Refractory Industry's long-term program for encouraging high school graduates to enter our profession," J. B. Arthur, president of Mexico (Mo.) Refractories Co. said in connection with the announcement of a $28,000 scholarship-loan fund to the University of Missouri School of Mines and Metallurgy.

The J. B. Arthur and Family Scholarship-Loan Fund, first to be established exclusively for the benefit of students in the Department of Ceramic Engineering, recently received an additional 400 shares of Mexico common stock, bringing the total donated by the Arthur family since 1955 to 820 shares, currently valued at about $35 per share.

A $500 cash award goes to a deserving junior or senior in the school ceramics department.

Hiram Swank's Sons Sees Good Year Ahead

Hiram Swank's Sons is beginning their second century of operation with expectations of a very good year in view of the heavy demand for steel.

The Johnstown, Pa., firm in 1956 sold 100 million pieces of refractory items for a total dollar sales volume of $8 million.

More than $2 million has been spent by Swank's in the post-war era for improvements. No major plant improvements are planned for 1957, according to President Albert M. Swank, but work will continue in converting to gas firing and research will be stressed.

Richard Bradley Chosen ACS President-Elect

Richard S. Bradley, vice president of the A. P. Green Fire Brick Co., Mexico, Mo., has been chosen as president-elect of the American Ceramic Society.

Bradley will be installed into office at the 59th annual ACS meeting in Dallas Tex., May 5-9. He has been a Green employee since 1923, at one time serving as director of research, and at present as head of the newly created division of research and engineering. He has been an ACS member since 1923 and was made a fellow in 1935. From 1952-55, Bradley served as a trustee of the ACS refractories division.

Record Profits, Sales For H. K. Porter

Preliminary unaudited figures show record profits and sales for H. K. Porter Co., Inc., in 1956. Net profits were $7,594,53 on sales of $140,558,096 as compared with $6,433,107 on sales of $106,099,816 in 1955.

Net profit per common share in 1956 was $7.07 compared with $6.15 last year.

Among Porter divisions are Lacelede-Christy Co. and Mullite Refractories Co., (the latter announced last month as being acquired by Porter) and McLain Fire Brick.

Contract Let For Curwensville Lab

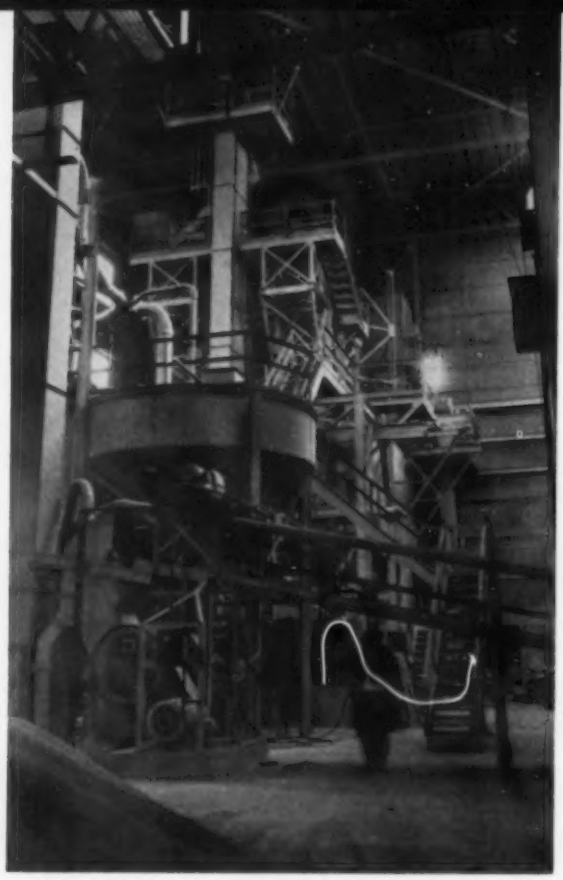
Contracts for the construction of a new research center at Curwensville, Pa., have been let by North American Refractories Co., Cleveland.

Scheduled for completion in October, the new center will be used to coordinate all phases of quality control and to develop new products. The lab facilities will cost an estimated $300,000 with floor space of about 12,000 sq. ft. The building will be adjacent to North American's Curwensville plant.

John P. Marron has been appointed general superintendent for Kittanning (Pa.) Refractories Inc. Marron was formerly plant engineer at the Latrobe plant of General Refractories Co.

H-W Employees Hear Special SUB Discussion

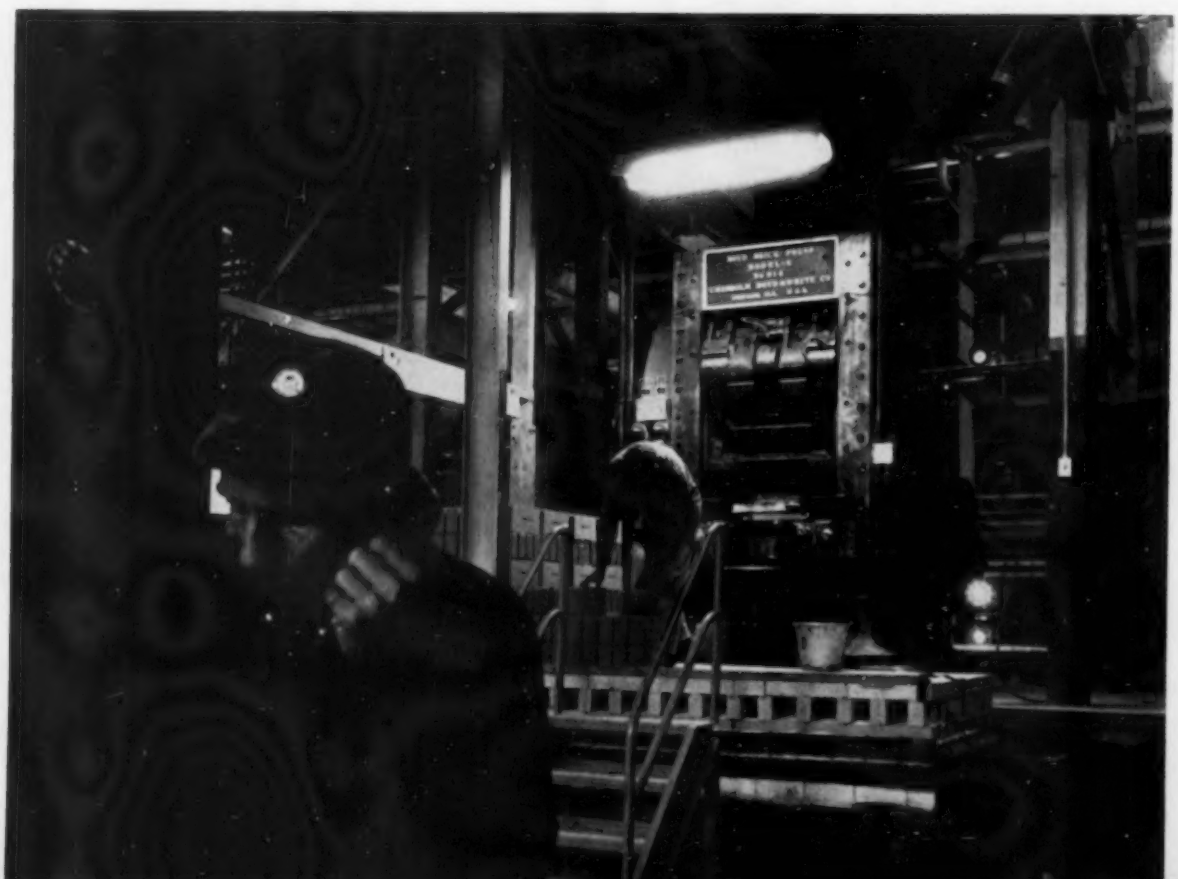
Employees pictured here met in Pittsburgh January 10 and 11 to hear discussions on supplemental unemployment benefit plans and cost of living adjustments. Plant superintendents and other operating personnel were present from all over the country at the meeting sponsored by Harbison-Walker for its employees. After the discussion, the balance of the two-day session was devoted to discussions of plant and mine problems. In the picture, third from right at center table, is H-W president E. A. Garber.



GENERAL USES ELABORATE system of constant weight feeders to eliminate usual batch mixing methods. BELOW is shown one of the four hydraulic presses used in forming operation.

How Does

Daily check for quality by two labs at General plant results in peak production, top quality product from giant 600' tunnel kiln operation.



Warren Fire Seven Extra Cars A Day?

Even before one pebble of silica enters the production facilities at General Refractories Company's new Warren, Ohio silica brick plant, the quality control unit of the company has seen to it that the pebble is of a quality that will insure a uniform high-grade product at all times.

Employing the facilities of its plant and those of the company's Central Research and Control Laboratory in Baltimore, Md. regular periodic checks of the material at various manufacturing stages are made, from raw material through the time the burned brick are shipped.

Samples of the raw material are sent to the Baltimore Laboratory for analysis along with spot samples taken at regular intervals to insure protection against any irregularities which may occur. Samples of mixes through the entire manufacturing process are also sent to the Baltimore laboratory for analyses of alumina and lime content. These samples of materials, along with frequent samples of burned brick, are completely chemically analyzed, to insure the customer that he is getting a controlled quality product.

Checks by Plant Lab

Supplementing the Baltimore laboratory testing, the company maintains its own plant laboratory which constantly checks on manufacturing procedures at regular intervals. Screen analyses, moisture contents, lime contents of the various mixes are all controlled by the plant laboratory, along with the modulus of rupture, size and densities of the pressed and burned brick.

These facilities enable the company to produce a uniform product at all times. Complete results of all the plant tests and Baltimore tests are analyzed and studied at the plant as well as submitted to the main office of the company in Philadelphia, Pa. for further study.

Plant Location

Warren Works is located in the highly industrialized Mahoning Valley, in the heart of a steel making area encompassing Warren, Cleveland, Lorain, Youngstown, Canton, Massilon, Lowelville in Ohio and Sharon in Pennsylvania. The plant is served by transportation facilities for truck and railroad shipments, and is in every way located and equipped to render excellent service to refractories users in this large and important sector of American industry.

Raw Materials Preparation

Silica pebbles from Nelson Ledge, about 15 miles from the Warren plant are quarried, washed and processed at the quarry site. Quality control starts at the quarry and extends to the washing plant prior to shipment to the brick making plants. They are brought to the plant via motor truck. Upon arrival at Warren Works the quality control starts at once with the analysis of samples of each truckload, for alumina content, moisture content and particle size. The closed storage shed at the plant measuring 64' x 196' is capable of holding several weeks supply of the various qualities of silica pebbles used in manufacturing the two grades of silica brick, both standard and superduty. Belt feeders located beneath the storage room feed the material to a bucket elevator leading to a storage bin. The contents of this storage bin flow by gravity to a constant weight feeder which delivers the material to a Maximuller for further reduction of particle size. The material from this dry pan is then transported by bucket elevators to double deck screens where the proper sizes are separated and transported to storage bins maintained for these particular sizes. Tailings from the screens are returned to the dry pan for further reduction.

For material that is needed in sizes of minus 150 mesh, a ball mill is used for this reduction. All sizes of material are kept in separate storage bins, as are the bonding agents commonly used in the manufacturing process.

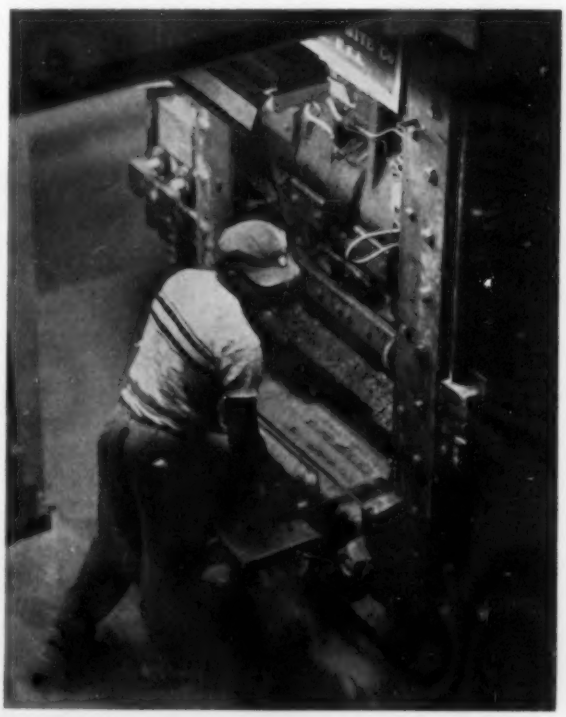
Brick bats, which are used as a grog, are handled essentially the same way as the pebbles with separate bins maintained for each quality material in the processing line.

Formation of the Mix

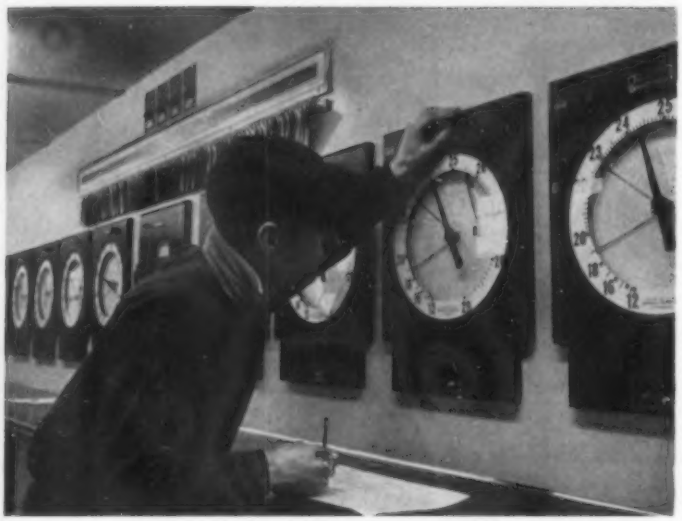
Continuous constant weight feeders, located underneath each of the raw materials storage hoppers and feeding onto a main conveyor feed proportionate amounts of the various materials. This system is carefully controlled and regular periodic checks are made of the mix at all times to insure accurate formulation. This continuous system of mixing eliminates the usual batch mixing procedures commonly found in a silica brick plant. All feeders and conveyors in this mixing system are electrically interlocked, so that failure of one or more of the feeders to operate properly will not throw the entire mixture off normal.

Along with the different quantities of pebbles the bonding medium, in this case hydrated lime, is added to the mix by means of another constant weight feeder.

The main conveyor carrying the mix deposits its ma-



ANOTHER VIEW of Boyd press in operation at General plant.



CAREFUL CONTROL is exercised at all points in production. The 600' kiln uses 88 burners, holds 84 kiln cars.

terial into a bucket elevator which conveys the material to a pug mill operation in the process. At this point, the mixture of water and glutrin is added to the mix automatically so that uniform moisture content is maintained. As the material is discharged from the pug mill, it drops into a dry pan which serves as the final tempering unit for the mix. Little or no grinding action takes place at the dry pan, thus making the pan essentially a mixing and tempering unit.

The material from the dry pan is discharged from the pan through the screen plates located in the bottom of the pan. This material discharges into a hopper where a lift truck can conveniently transfer the hopper contents to the press feeder.

Forming Operation

Before the material is formed into shapes, it is analyzed at the plant laboratory to further insure quality. In addition to these tests, periodic samples of the mix are sent to the Baltimore laboratory for further examination.

Four Boyd toggle presses are used for the forming operation at the Warren plant. As the brick are formed they are checked for size and density at the press so that any irregularities may be corrected immediately. The brick are set directly on tunnel kiln cars in preparation for the drying procedure.

Two lines of machinery are employed at the plant, each line consisting of two presses. The silica brick are set to one height, about half of the total height of the car setting, and then moved to the second press, where the setting is completed. This movement of the cars and small time lag before completing the car setting allows the brick to harden in order to withstand the load of a high setting. The kiln cars are six feet wide by seven feet long and are capable of holding 1900 nine-inch equivalents of silica brick.

Drying and Burning

The cars are generally moved directly into a twin-tunnel dryer; however toward the end of each week they are set in a storage space preparatory to week-end dryer operation, or other periods when presses are not operating. The dryer is 150-feet long with each tunnel holding twenty-one cars. Waste heat from the tunnel kiln is utilized in drying the brick which leave the dryer at a temperature of about 280°F. Five recirculating fans in the dryer distribute the waste heat efficiently so that by the time the waste heat reaches the charging end of the dryer, it is down to about 80°F. The temperature at the charging end of the dryer is automatically controlled as is the relative humidity throughout the dryer.

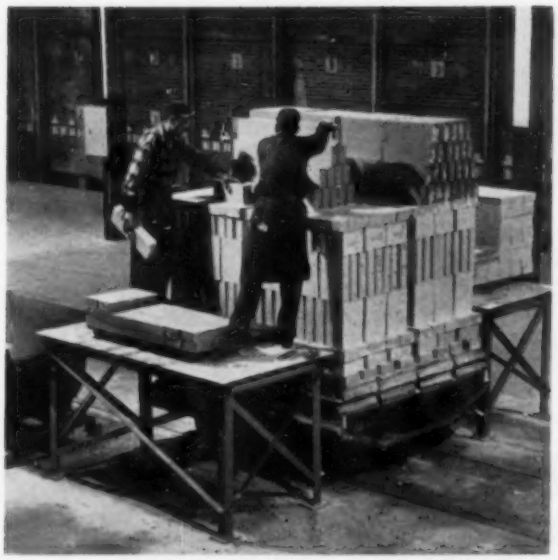
One of the world's longest tunnel kilns is utilized at the Warren plant for burning the silica brick. This kiln, 600 feet long and holding 84 cars, is matched in length only at the company's Morrisville plant, which also makes silica brick.

Twenty-six recirculating fans in the tunnel kiln provides the controlled circulation of gases required for the heating and cooling cycles.

A total of 88 burners are used on the kiln in burning the brick to temperatures as high as 2700°F. Of these 88 burners, 50 of them are automatically controlled by 10 proportional controllers, with each control operating 5 burners. The kiln is gas fired, and is equipped for firing with oil whenever the supply of gas might be inadequate.

In addition to the tunnel kiln, the Warren operation in-

ABOUT 95% of ware is shipped on pallets to customer, with trucks moving 90% of production. Daily production is 36,000.



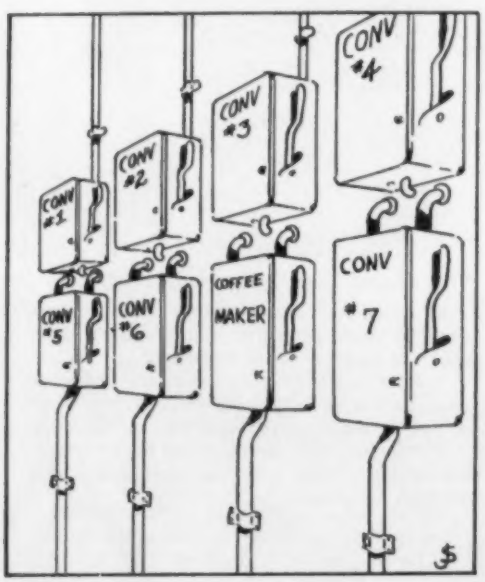
AS FIRED BRICK are unloaded, they are checked for flaws, are checked again before being shipped to customer from storage.

cludes a periodic kiln for the firing of special orders and unusual shapes.

Inspection and Shipping

As the brick are discharged from the tunnel kiln, they are unloaded onto pallets for either inventory or direct shipment. As unloaded, they are inspected for defects and all defective brick rejected.

Approximately 95% of the brick are shipped on pallets to customers. About 90% of all shipments leaving the plant are by truck because of the proximity to the market. The remainder are sent by rail.



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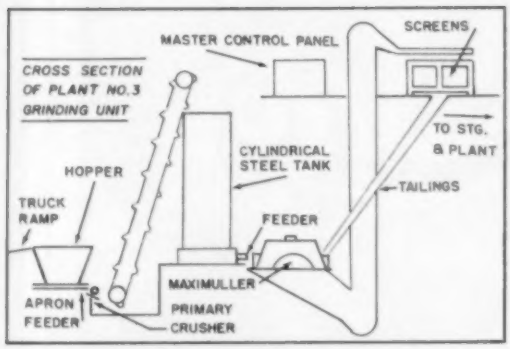
MINUTE MONEY MAKERS

MINUTE MONEY MAKERS — a new feature beginning with this issue is designed to give every operator in the heavy clay products industry ideas to aid their daily operation. The ideas may not be new but certainly they are good and they are the answer to problems that the editors have noticed in their extensive travel. Follow this feature each month for ideas that will make your work easier.



Extra-Fast Grinding

Pictured here is the system in use at Kendrick Brick & Tile, Monroe, N. C., which has a capacity four times the normal grinding rate.

A Maximuller in the system gives the arrangement a capacity of 40 tons of a tough North Carolina shale per hour. Note the unusual compactness.

How To Set 19 Courses High

Bemus Brick Co., Macon, Ga., has found a way to set brick 19 high without damage to the bottom brick on the tunnel kiln car. This is possible because setting is a two-step process.

The cars are filled from two off-bearing belts. After ten courses have been set from the first, the car passes through a drier for four hours. This sets the brick hard enough for the second step of setting the next nine courses from the second off-bearing belt.

"No-Hand" Car Span Handling

In many factories, the span from factory shipping door or platform is a cumbersome space to span at a low labor cost.

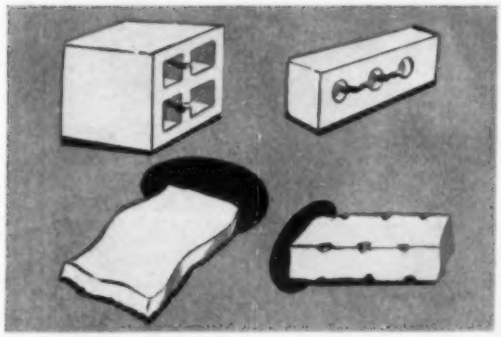
Building a sheet metal span or one of lighter metal such as aluminum makes possible a good bridge for the distance, but it's heavy handling.

By building two disappearing hooks into it, the bridge can be easily handled with a fork lift truck, as shown.

Correcting Die Adjustments

How to detect incorrect die adjustment: 1) Cracks caused by core bridge can be determined because they always appear in the same place in the ware, where the bridge cuts the column. To correct, set the bridge back or use corrugated bridge.

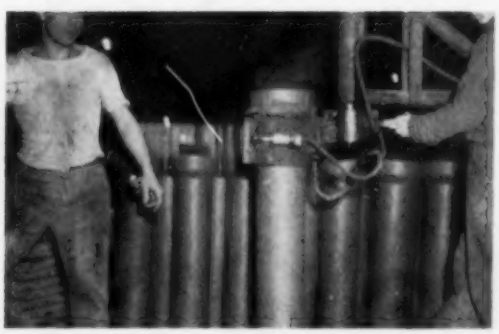
2) warping and wearing of the column from the die might be due to propeller wing effect on pressure. Increase distance from auger to die. Vertical core bridges may emphasize weave. 3) Tearing of column corners may be due to poor lubrication or incorrect die taper. die.

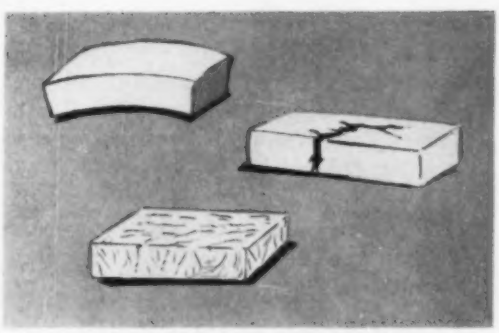


Compact Shipping Loads

A hydraulic squeezer tightens up the load in a box by placing brick closer together, thus avoid shifting losses. As much as 12 inches is retrieved on each end of the car before the door area is filled.

The squeezer is portable, being mounted on wheels. A hydraulic mechanism operates the pushers.





Handling Pipe Hydraulically

A clamp lined with a rubber or other soft material for padding is operated by air to facilitate handling of pipe. The closing pressure is regulated to firmly grasp the pipe but not to distort a soft, freshly made pipe.

The weight of the pipe is carried partially by the pressure of the clamp on the pipe and partially by the bell resting on the ring of the clamp.

Better Quality Through Mixing

How to mix clays to improve your products: 1) If the brick, tile or pipe clay has excessive drying shrinkage and tends to warp, add a clay with little or no plasticity. 2) A sand clay may be added to reduce drier warpage and reduce the fine surface cracks. 3) Adding plastic clays to a weaker clay will improve firing quality by tightening finished product and resisting warpage in firing.

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FEBRUARY 25 THROUGH 28, 1957

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LIFT TRUCKS Continued

(10) A visual check of the truck is obviously wise.

(11) Mechanical condition is, of course, very important.

Among other things that the buyer will want to check will be the action of the clutch pedal to determine whether it has the proper amount of "free pedal travel"; too much may indicate a worn clutch.

(12) There are many other points to analyze — the condition of grease fittings . . . condition of instruments . . . the condition of lights, if they are available in the truck . . . and last, but not least, the condition of the horn. This is a small accessory and relatively inexpensive, but it is surprising how many times a horn is inoperative.

Close Checks Pay Off

All this sounds complicated . . . but the plain fact is that it sounds more complicated than it is. And any energy that the prospective buyer expends in making sure that he is getting the truck that he wants, in the operating condition that he wants it, is well worth the investment. For a used truck may cost from a few hundred to several thousand dollars, and not only the manufacturer who made the truck but the dealer who is selling it will prefer to have a satisfied to a dissatisfied customer. The checklist may be the difference between the two.

1965 Continued

In 1940, when things weren't so hot, it dropped to 48%, but today, when we all think that everybody is getting too far in debt buying automobiles and houses and refrigerators, etc., the ratio is even smaller. Today the ratio of debt to accumulated savings is only 47%. We have less debt today than we had any time in the past, compared to the savings. It all points up to the fact that the big push is still ahead.

Are You Planning?

So, we come back to an early statement . . . what is your planning board doing about preparing for the future?

Faced with a lagging work force during the next ten years, the problem is to develop this work force into higher levels of skill and efficiency. With at least a 50% increase in gross national product in 1965 over 1955, and with only an 7% increase in our effective working force, and an actual decrease in the development group between 25 and 45 years of age, the art of management faces a challenge in the human field of action not unlike that it met so successfully in the field of production.

GRAY Continued

the entire mass to a uniform temperature. After the uniform temperature of around 1100° is reached it is then necessary to slowly drop the temperature to 800° or 900° through the point of silica conversion.

Good air circulation during all the cooling period is most essential. From the 800° down to the temperature of the ware at the discharge of the kiln, a faster rate of cooling may be accomplished.

However, the ware is generally still subject to cooling cracks and it will probably be necessary to temper the final cooling air to around 120°, and if this is discharged into the cooling section near the bottom part of the set it is less apt to cause cracking, as the heat transfer is in natural gradient to the ware temperature.

In conclusion, for the burning of brick, I prefer a six brick wide to a larger size kiln, as it permits better flexibility of control, and better heat distribution.

Further, for ordinary ware where no special firing problems are concerned, the same maximum production is obtainable for a six brick wide as against an eight brick wide of the same length.

Tougher resistance to wear, fatigue, vibration and distortion reduces replacement cost and downtime to a minimum . . . keeps product uniformity and output high . . . lowers your cost-per-ton . . . makes L-S Screens *Your Best Buy!*

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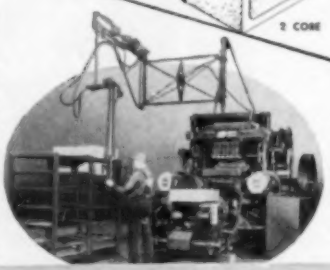

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and method. In my opinion it is an area where many otherwise high-caliber executives are weakest. In the pressure and pace of daily operating affairs, it is a problem for many to find time for the planning and thinking out of projects. This failure can be, and often is, the graveyard of many worthwhile ideas—with subsequent waste of dollars and hours.

Times Have Changed

Our forefathers may have been able to operate on an "opportunistic" basis. The growth of our economy, the unlimited natural resources, the vast untapped markets permitted and in many cases called for the fast-moving, crap-shooting business swashbuckler.

Times have changed. The difficulty of creating capital wealth because of the tax structure and the competitive complexion of our current economy do not permit much leeway for such waste of either money or time.

One of the outward manifestations of this quality of administrative skill is orderliness. The way a man marshals his thoughts, the way he presents his arguments, the way he plans his own life, the way he keeps his working quarters—these are signs of an orderly mind, or lack of it.

Omitting the unforeseeable emergency that can throw a curve into any of our personal lives, the good manager lives within his income. He finds ways in spite of today's inflated living costs to protect the financial security of himself and his family, to provide for their health and wellbeing and to spare himself the mental anguish of not being able to make ends meet. This calls for a real measure of sacrifice, in most cases, and a family decision to forego many of the material enticements with which our society abounds.

Optimism Is a Must

4. Positive Attitude. A manager must be optimistic. He must radiate confidence and enthusiasm. The business world of today and tomorrow wants leaders who can inspire.

This positive approach cannot be a manufactured or an artificial one. It must not be merely a pose; it must be sincere and deeply felt. A company, an operation within a company, a project within an operation, must be led by a manager who has an all-abiding faith in his work and objectives. This faith is usually the secret weapon against the discouragement of difficulties and problems.

The manager's behavior, his facial expressions, even the droop of his shoulders, are all watched closely by the rank and file of employees. A discouraged and despondent executive can send the morale of 100 or more employees into the gutter. A worried-looking boss can send a wave of fear rolling through an organization which starts a chain of resignations among the best people and work slowdown among nearly all of them.

You may properly ask, how does a man develop a positive, optimistic attitude? With the problems of government regulations, taxation, cut-throat competition, strikes, personnel failures besetting him daily, most modern managers face enough grief to make them contemplate suicide once a week. How do some men develop the ability to relax in the midst of constant pressure and trouble?

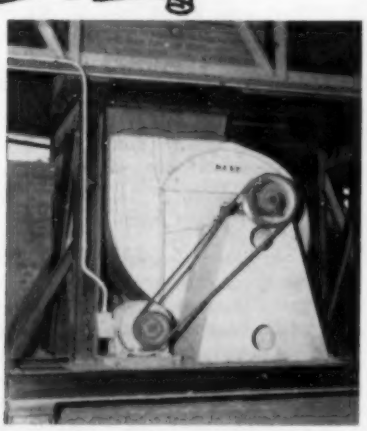
Need Good Health

An important key to the answer is health. Vigorous health is essential if a manager is to keep up the pace demanded by managerial responsibility. This means proper eating habits, care against overindulgence in smoking and drinking, adequate rest

(Continued on following page)

STRENGTH AND QUALITY

More and Better Production from Tunnel Kilns with Engineered Air-Handling *ROBINSON* Fans



Robinson type AE-6-BB Single Inlet Exhaust Fan serving a tunnel kiln exhaust system.

ROBINSON FANS are engineered to meet exacting demands for accurate performance of tunnel kilns.

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When you buy Robinson Fans from your Tunnel Kiln Builder, you can be sure they will be accurately engineered and backed by our standard guarantee as to quality, workmanship, and performance to specification.

ROBINSON VENTILATING CO.

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SEE OUR CATALOG IN Ceramic data book Page 277

EXECUTIVE Continued

and exercise. A sick or half-sick manager is a real handicap to a company.

Play a Little, Too!

All work and no play usually produces a tense and grim executive. Hobbies and outside interests give a man greater capacity and vigor in his professional role. Vacations are necessary—and no company should permit its key executives to get so swamped that they feel guilty for taking them.

It is not easy to stay undisturbed when things around you are going wrong. Jokes about the ulcer incidence among business managers are no joke. Our country's consumption

Another important weapon against worry and pessimism is faith—faith of aspirin is a national disgrace.

in the people to whom you have assigned an important job, faith in yourself, faith in God. People more often than not live up to the faith they know you have in them. You yourself more often than not do a good job if you believe you can.

The job of inspiring others also involves some important mechanical skills. You want men who can talk well, men who can write well, men who can be understood, men who can sell people on doing what they want them to do.

Some people have these skills naturally; most have to develop them laboriously. How? By practice, practice and more practice. This is why public speaking courses are desirable for an aspiring manager. He should also strive to excel in clear, concise written expression. A large measure of his success will depend on his ability to communicate.

You Must Take Risks

5. COURAGE. Managers must be men who will gamble—not in the Monte Carlo, Churchill Downs or crap-shooting sense of the word. Business is a matter of taking a risk and quite often the magnitude of the risk is a measure of the possible gain, or loss.

In nearly every business decision someone must have the courage to take positive action without having in hand all the facts and data that make decision risk-free. To wait for all the necessary information may mean missing an opportunity; it may mean that a more aggressive competitor will take the important initiative; it may mean a timing failure. Timing in business affairs is vital. So usually someone, a manager with courage, must stick his neck out and decide to do something—now!

It takes courage to delegate. To give a subordinate the authority to perform a function, to stand aside and let him make a decision—a decision that may turn out to be wrong—takes valor.

It is a fundamental precept of business management that although the work load may be distributed down the line, and many decisions may and should be made down the line, final responsibility for an operation cannot be delegated. Results of a departmental decision cannot be ducked by the department head; performance of a division is the responsibility of a division vice-president; deeds and performance (or lack of it) of every individual in a company are the responsibility of the president. A manager must accept this responsibility.

Pass Along Praise

Since it is a well understood code that a manager must take the blame for the mistakes of his organization, yet at the same time pass along the credit for its success, it defies a man's natural instincts not to review and approve every decision within his jurisdiction. When this happens you have no true delegation. One of the hardest lessons for a manager to learn is to "let go."

6. CHARACTER. Managers must be men of high integrity. The quality of integrity—the honesty, sincerity, the moral posture of a top executive must be unquestionable. This is a common ingredient of all real leaders. They may have the previously discussed five characteristics in greater or lesser degree; on this quality there can be no compromise.

Integrity manifests itself in many ways, some quite subtle, I think.

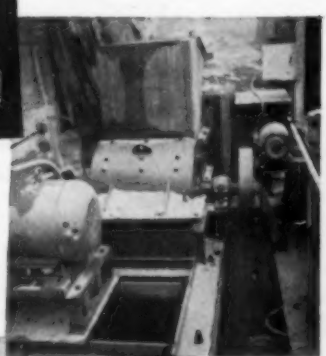
Must Earn Loyalty

Arrogant leaders are short-lived. Arrogant managers may survive because they own the business or have their boards of directors buffaloed. But their companies never attain their full potential because people cannot feel loyalty to arrogance. As Clarence Frances once said, "You never buy an employee's loyalty—this you have to earn."

To be a manager a man must have the confidence of his superiors that his actions will be the same whether his deeds are subject to observation or not. This is integrity.

Reclaims 9 tons of Haydite Blocks per week

...PAYS FOR *American* HAMMERMILL IN 6 MONTHS!



This American Series 24 Hammermill is crushing culled Haydite blocks up to 12" x 8" x 16" to reusable ⅜" material. At the current market price of Haydite, this manufacturer paid for his American Hammermill in less than 6 months' operation.

Culled Haydite, Concrete or Cinder Blocks can be easily crushed to minus ⅜" material and mixed with new material. The resulting savings quickly pay for the cost of the equipment and give you a substantial profit thereafter, as well as eliminating the hauling away of culls.

WRITE for literature describing complete line of American Hammermills.

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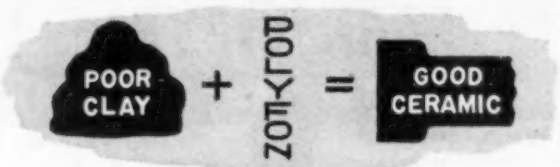

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POLYFON.

Is your top grade clay source becoming depleted? You can use a poorer source and still get top grade results by adding POLYFON T or POLYFON O to your mixes.

These low cost, plentiful sodium lignosulfonates contribute to wet, dry and fired strengths, reduce shrinkage and cracking, and give more uniform ceramic shapes.

Send for bulletins 301 and 303 describing POLYFON and its use in ceramics, and ask for samples to test with your ceramic raw materials.

Polychemicals DIVISION

West Virginia Pulp and Paper Company
CHARLESTON A, SOUTH CAROLINA

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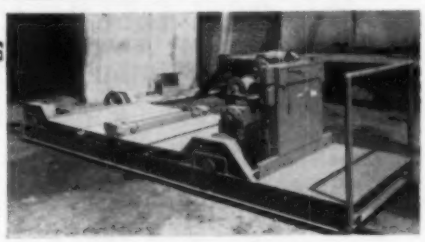
Asheville, North Carolina



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When the belt stops and the driving drum doesn't — there is danger of fire — but NOT if you use new SCANDURA P.V.C. coated conveyor belting.

Developed and tested by our parent company in the United Kingdom since 1946, SCANDURA is now made in our Charlotte, N. C. plant. Here is a belt that absorbs terrific impact with minimum abrasion. Write for free catalogue showing how you can use SCANDURA to advantage in your industry.

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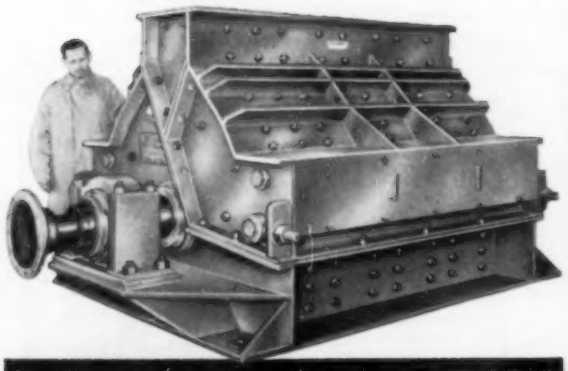

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REVERSIBLE IMPACTOR

The economy, speed, quality control and low upkeep of a Reversible Impactor is unmatched for reducing bank run material to proper fineness for burned ware. In closed circuit systems, with external vibrating screens, absolutely uniform sizing to specifications is assured.

No grates are used thus minimizing upkeep expense. Reversible rotation makes manual turning of hammers unnecessary; adjustable impact blocks cut labor, downtime. Parts life is prolonged up to 7 times!

Write today for catalog

Internal view showing manganese steel impact blocks, hammers and liners. Rugged, heavy steel plate construction. Extra large shafts are mounted in oversize bearings sealed in self-aligning housings.

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CRUSHERS GRINDERS SHREDDERS
OLDEST AND LARGEST MANUFACTURER OF HAMMER MILLS IN THE WORLD

IN MINUTES . . . INSTEAD OF DAYS

Samples obtained from depths up to 100 feet with the all new

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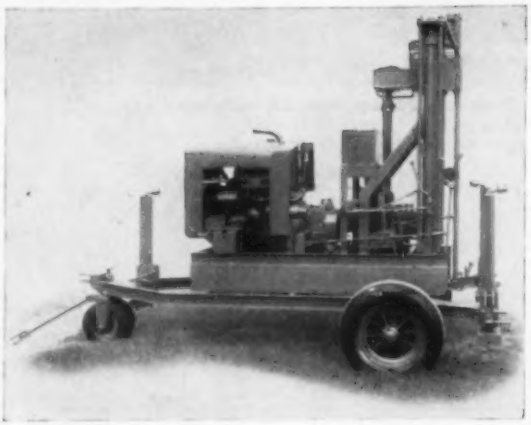
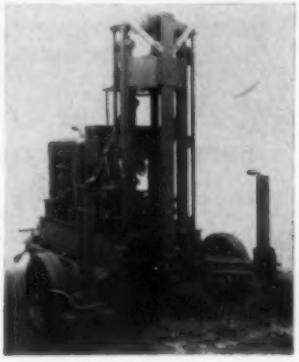


Model HV-172
Hydraulic Vertical Drill

- HEAVY DUTY
- FOUR SPEED AUGER
- FINGER TIP CONTROL
- 65 H. P. MOTOR
- ALL DRIVES MOUNTED ON TIMKEN ROLLER BEARINGS



RUGGED COMPACT EASY TO OPERATE

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THREE LEVELING JACKS TO INSURE STRAIGHT HOLES. FIELD PROVED

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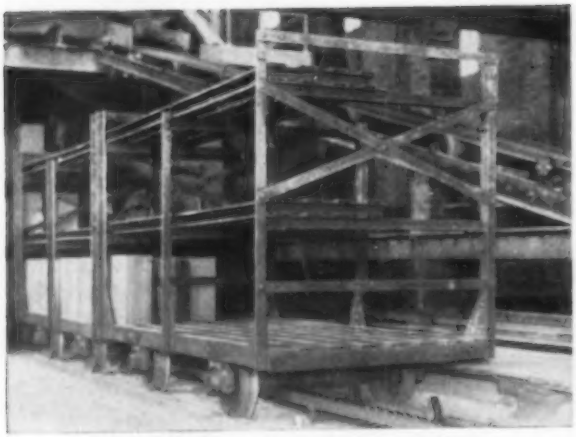
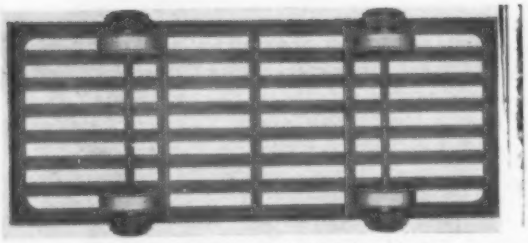


Dryer cars at Jenkins Brick Co., Montgomery, Alabama

DRYER CARS BY CHASE



Looking at the Bottom of Style 306 car frame

UNDER CONSTRUCTION OF OUR CARS

All dryer cars, single, double and triple deck are equipped with sturdy under construction. The cars are absolutely square, and are of rigid welded construction. There are five heavy cross sills. Wheels are pressed securely against the shoulder of the axle and the hub extends the proper distance to take end thrust against boxing. Bearings are dust proof, oil retaining, and roller bearing. For further information write for catalog.

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INDUSTRIAL CAR AND TRUCK BUILDERS FOR OVER FIFTY YEARS

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3 profit makers

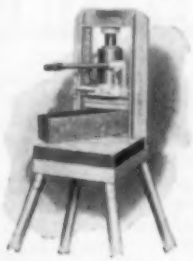
...in the complete BESSER line of BLOCK SPLITTERS

• Today — the trend toward split block is strong. Architects, builders and owners want this beautiful, modern "quarried stone" effect that is so ideal for all types of structures. Why not cash in on this tremendous market. Get the tools required . . . splitters and trimmers. The Besser Company, makers of the famous VIBRAPAC block machine, carries a complete line. Write today for literature.

1 BES-STONE SPLITTER

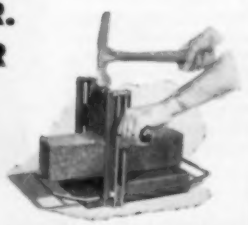
Splits block in a straight line, with speed, precision and safety. No cull block. Easily adjustable for splitting various heights. Holds block automatically in correct position. Finished split block is removed from under splitting knife by incoming block.

2 PONY BLOCK TRIMMER



Indispensable tool for on the job. Trims off the end of any block up to 8" by hand operated, hydraulic pump. Capacity 12 tons. Legs easily removable. Compact, lightweight, easily portable.

3 PONY JR. TRIMMER



Handy for trimming ends of block, brick or stone. Merely strike blade holder with heavy hammer. Cuts square or at any angle. Easily lifted by mason to scaffold.

BESSER COMPANY

Complete Equipment for Concrete Block Plants

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NEWS OF TRADE

Personnel Changes, News Events, Obituaries Concerning Industry Equipment Suppliers.

Improved working conditions, increased production and more uniform quality of blooms and billets will result from improvements being made by the **Timken Roller Bearing Co.**, Canton, Ohio. Improvements will cost $200,000.

Claud A. Fenn, Vice President, **Clark Equipment Co.**, Buchanan, Mich., has been appointed to a newly-created position on the president's staff to coordinate manufacturing operations in all Clark plants.

Allis-Chalmers Mfg. Co., has purchased 127 acres of land for its Cedar Rapids works where motor scrapers and motor wagons are built. This site will enable the company to expand in the future.

The purchase of ceramic milling facilities at Cold River, N. H. for production of petalite was announced by L. G. Bliss, President of **Foote Mineral Co.**, Philadelphia, Pa. George B. Kneass, Jr. has been named plant manager.

Forty-four employees of the **O. Hommel Co.**, Pittsburgh, Pa. received service Pin Awards from E. H. Hommel, president, at the twentieth annual presentation ceremony.

Hugh Richmond, **Hyster Co.**, has been elevated to the position of supervisor, sales engineering, Eastern sales div., according to Harold Lucas, manager of merchandise div. Tom Davis has been named a sales engineer in the same division.

Plans for constructing a seventeen-story office building in Pittsburgh, Pa., have been announced by T. M. Evans, President of **H. K. Porter Co.**

Keeping in step with plant expansion, the **Frank G. Hough Co.**, Libertyville, Ill., has announced the appointments of H. R. Brown and R. L. Knox as Assistant Sales Managers and R. D. Schwartz as Assistant Advertising Manager.

E. S. McCormick was named General Sales Manager for the Buffalo-Springfield Roller Division of the **Koehring Co.**, Milwaukee, Wis., according to J. F. Harrison, Vice President and General Manager of the Ohio firm. Buffalo-Springfield recently was merged into the Koehring organization.

To better serve their divisional offices, a new and enlarged Sales & Service office has been opened in Chicago by the **Ferro Corp.**, Cleveland, Ohio.

Cardinal Carryor Co., Louisville, Ky., has been named franchise representative for sale and service of the lift trucks of **Yale & Towne Mfg. Co.**, Philadelphia.

THE KEY TO SUCCESSFUL SCREENING
ALL NEW IN DESIGN

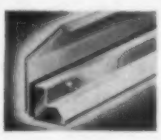
WRITE FOR NEW BROCHURE

HANCO ELECTRIC SCREEN HEATERS

Hanco heaters with quick change attachments are quickly installed and easily adapted to new or existing screen installations.

EXCLUSIVE SCREEN TENSIONING DEVICE (Replaces Existing Parts)

Fiberglass plate insulates conductor from frame, eliminates draw bolt insulators. Wedge-shaped conductor bars offer positive contact with cloth.



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ARCHITECTS WANT COLOR!

Modern architectural design calls for more and more colored glaze brick. With a modest investment, you can profit from this growing trend. By facing your common brick with colorful glaze, you can get premium prices for it.

Drakenfeld offers you practical help in solving color application problems. Our experienced technologists and the most modern color research and production facilities are ready to serve you. We invite your inquiry.

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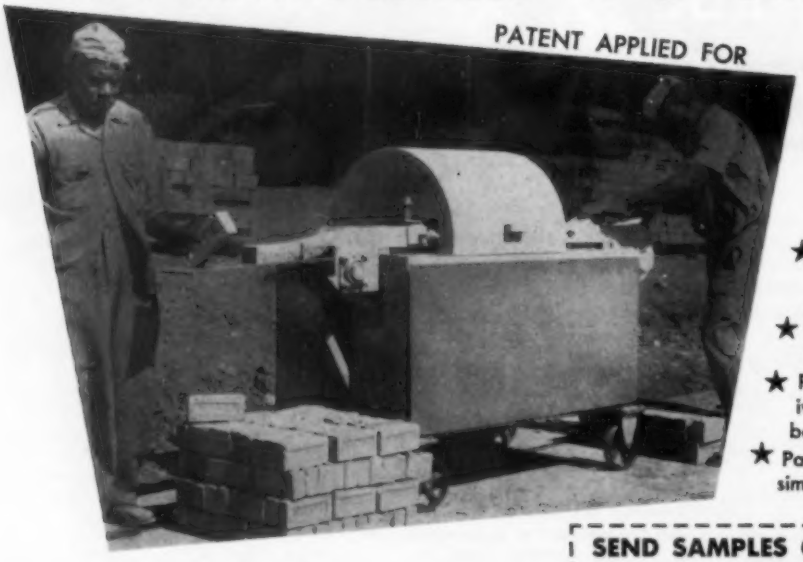
Introducing
AMERICA'S
NEW & ONLY....**BRICK ROCKFACING MACHINE**



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THE BRICK CHIPPER—

★ Eliminates slow, costly, inaccurate hammer-and-chisel methods. Increases profit by cutting labor and hidden costs.

★ Rockfaces an average of 1250 bricks per hour. Take an order one day, deliver it the next.

★ Chips a truly straight edge, enabling mason to lay neat course quicker.

★ Provides new salvage for many defective brick . . . transforming a loss into a bonus.

★ Pays for itself in 90 days or less! So simple and sturdy it will last for years.

SEND SAMPLES OF YOUR BRICK . . .
Let us put them through the ROCKFACER, and return them immediately. YOU judge the new profit possibilities this ROCKFACER offers. Prices and specifications on request.

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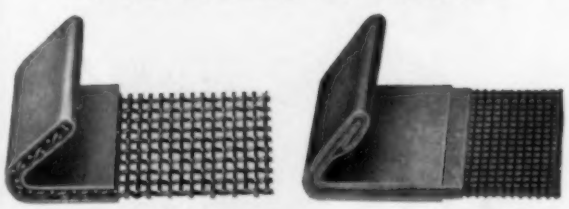
4747 E. 49th Street Los Angeles, California

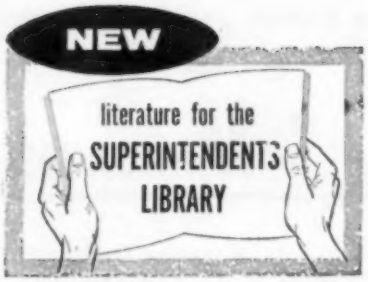
Tyler Screen Sections for All Makes of Screening Machines!



Screen sections of Tyler Woven Wire are fabricated for all makes of vibrating screens in any mesh or metal. They are made up with hook-strip or bent-edge construction to suit the machine on which they are to be used.

Tyler rugged, accurately-applied hook-strips make possible stretching and maintaining the screens at drum-head tension, which is essential for successful screening and long screen life.

THE W. S. TYLER COMPANY
CLEVELAND 14, OHIO
Manufacturers of Woven Wire Screens and Screening Machinery
Canadian Plant—St. Catharines, Ontario, Canada



Synduction Motor

The "Synduction" motor, a synchronous induction machine which provides constant speed and other advantages in installations requiring 40 hp and below is described in a new bulletin (51B8440A) from Allis-Chalmers Mfg. Co., Milwaukee, Wis.

242/Circle on Reader's Service Coupon

Drott Literature

International Harvester has made available six new pieces of literature on International Drott skid-shovels and attachments. A 16-page general catalog covers the entire Drott line. Other catalogs and data sheets describe specific equipment. Drott, International Harvester Co., Chicago 1, Ill.

243/Circle on Reader's Service Coupon

Packaging Blue Book

The Gerrard steel strapping people have released a new 36-page "Blue Book of Packaging" containing 130 photographs of strapping applications and a review of Gerrard products. Gerrard Steel Strapping Div., Chicago 32, Ill.

244/Circle on Reader's Service Coupon

Soiltest

Just released by Soiltest is a 128-page catalog containing descriptions and illustrations of more than 1350 items of apparatus for engineering tests of soil; also included are suggested lab layouts. Soiltest, Inc., 4711 W. North Ave., Chicago 39.

245/Circle on Reader's Service Coupon

Radiation Pyrometers

Minneapolis-Honeywell catalog C-93-1 describes the Brown Radiamatic pyrometer. Included in this is the new sapphire rod Radiamatic pyrometer. Minneapolis-Honeywell Regulator Co., Philadelphia 44, Pa.

246/Circle on Reader's Service Coupon

Dry Grinding Mills

Hardinge has just published a 44-page catalog on its line of mills for dry grinding and pulverizing, bulletin 17-C. The catalog discusses the application and selection of conical mills, rod mills, disc roll mills and others. Hardinge Co., York, Pa.

247/Circle on Reader's Service Coupon

Lorain "50"

A new two-color catalog describes the fully air-controlled, crawler mounted Lorain "50," and is now available from the Thew Shovel Co., Lorain, Ohio. The catalog illustrates and describes the many new features incorporated in the 50 model.

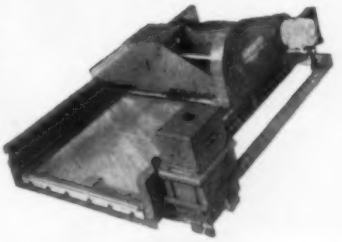
248/Circle on Reader's Service Coupon

Diamond Blades

"If You Don't Know Diamonds, Know Your Manufacturer" is the title of a pamphlet about industrial diamonds in relation to masonry cutting diamond blades; descriptions of different terms are given. Pamphlet 1013, Clipper Mfg. Co., Kansas City 8, Mo.

249/Circle on Reader's Service Coupon

"I'll take that one."



Leahy® Integrated Heat* Screening Easily Leads the Field

The Leahy Screen with Integrated Heat offers an efficiency and economy of operation found in no other fine mesh screening device today.

Its efficiency is attributed to (a) exclusive Leahy differential vibration that clears the mesh of wedging particles and (b) Integrated FlexElex electric heating that keeps the mesh dry and wide open for full capacity operation and accurate sizing.

FlexElex is not an attachment. It is an integral part of the screen, delivering current to the end-mounted jacket through multiple runs of air-gap spaced high capacity bus bars of low resistance. There are no bothersome flexible connectors and no electrical connections to break or remake during jacket changes; maintenance and service costs are substantially reduced.

Only the Leahy offers these completely integrated features for efficiency and economy.

Send for Bulletin 16-EH.

THE Leahy NO-BLIND VIBRATING SCREEN

— offers — INTEGRATED HEAT SCREENING

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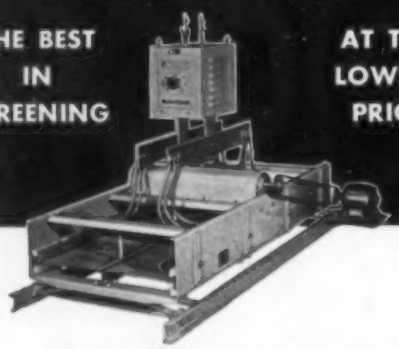
THE BEST IN SCREENING

AT THE LOWEST PRICE



The Most Modern and Efficient Electric Heating Equipment

SURPRISINGLY LOW IN COST

Be sure to get the facts regarding the new improved Universal Screens and Unilec Heating! Just ask for catalog #150.

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Quality Screens Since 1919

The Demand Is Increasing For
GRAY BRICK and RICHER DARK RED SHADES

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Turn Buff and Light Clays Gray

Flashes Red Clays to Dark Reds, Blacks and Gun Metal Shades

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GLOVES
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CLASSIFIED ADVERTISEMENTS

Notice

New Classified Advertising Rates

Effective January 1, 1957

Limited to Want Ads, Consulting Engineers, or Used Equipment ads, (wanted or For Sale.)

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BRICK & CLAY RECORD.

WANTED CERAMIC ENGINEER—with established concern. Over quarter century successful manufacturing quality face brick and facing tile. Young man with experience in glazing and all phases of manufacture. Excellent opportunity. Address 10-XAD, care of Brick & Clay Record.

WANTED—CERAMIC ENGINEER with established company. Over forty five years producing first quality shale face and common brick. Located Southeast U. S. Must be familiar with operation of tunnel kilns and down draft kilns. Should be capable of assuming position of superintendent. Give educational background, job experiences, references and salary expected. Address 1-YF care of BRICK & CLAY RECORD.

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CLASSIFIED ADVERTISEMENTS

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WANTED POSITION — CERAMIC Engineer —B.S. degree, age 34, six years experience in Research and Development and Quality Control in Refractories and Structural Clay Products, desires change. Address 2 WC, care of BRICK & CLAY RECORD.

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CRUSHERS, JAW, 20x4 Farrel, 12x26 Champion, 15x24 Traylor, w/40 HP drive, ALLIS CHALMERS #5 Gyratory
CRUSHERS, ROLL, 18x24 Steele, 30x16 Chambers (Univee drive) Disintegrating Rolls, Steele #2 (24x12), Chambers #1 (18x16) #2 (30x16) Conical 22x16x52.
FEEDERS, Jeffrey 15"x60" Vibrating, 36"x8' Reciprocating plate w/5 HP motor/Red.
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DRY PANS 4½' Thropp, 7' American, 9' Bonnot, 9' Stevenson
SCRENS, 26x42 Crosley double lawn, 3x5 Universal (new), 3x5 Tyler (wet) 3x10 Tyler double type 3S, 3x10 Cedar Rapids double, 5x12 Hewitt Robbins 2½ deck, 4'x20' Trommel
HAMMER MILLS, 8" Raymond (Bronze), Mikro 2 St w/10 HP motor & vari feed drive 24x20 & 36x42 Jeffrey
REPRESSES, 2 Mold American 290, Bonot Special w/motor drives

LAWLER COMPANY
Metuchen, N. J. Liberty 9-0245

FOR SALE — RIDDELL Combined double-pug brick machine #404-A without deairing must move. Watkins Brick Co., Ensley (Birmingham), Ala.

Steele Even Clay Feeder, Model B.
Steele No. 4 Disintegrator, Model C.
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ROTARY DRYERS & KILNS
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CLASSIFIED ADVERTISEMENTS

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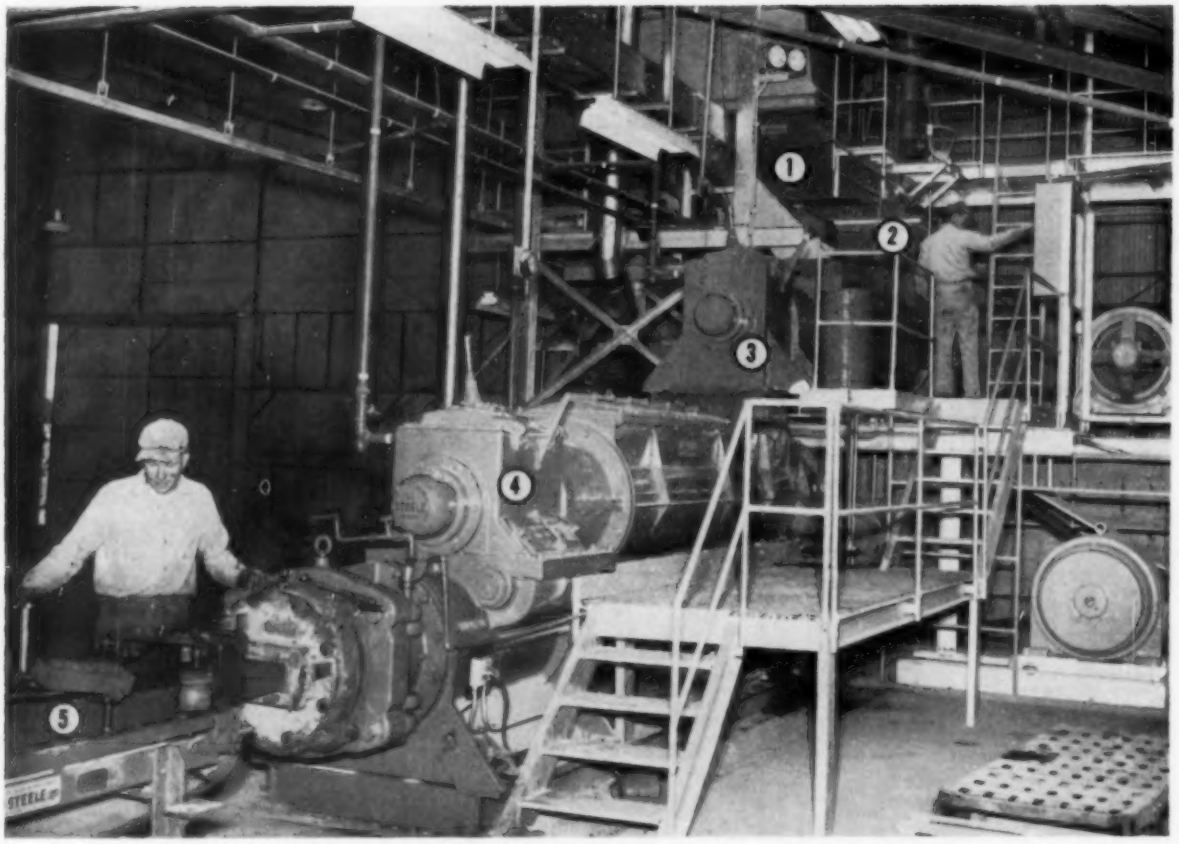

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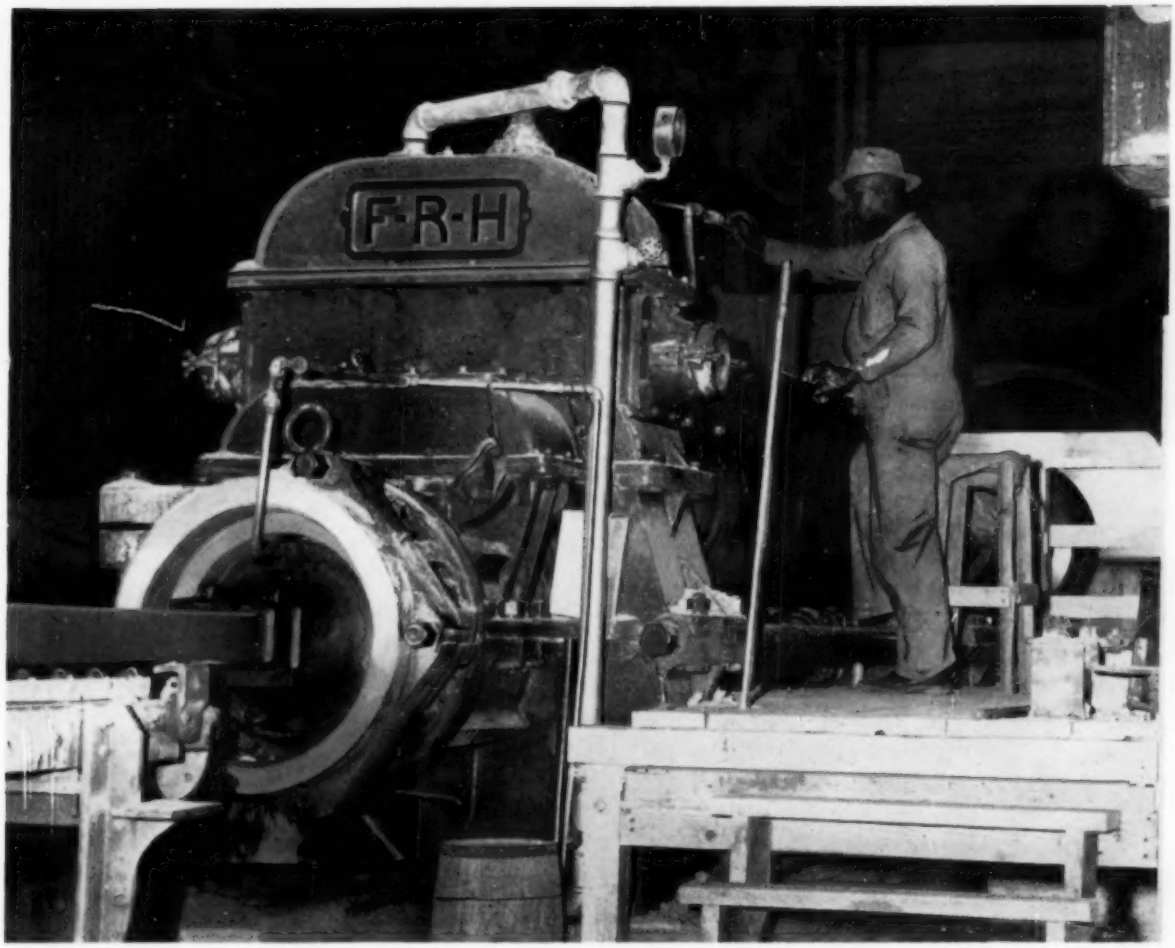

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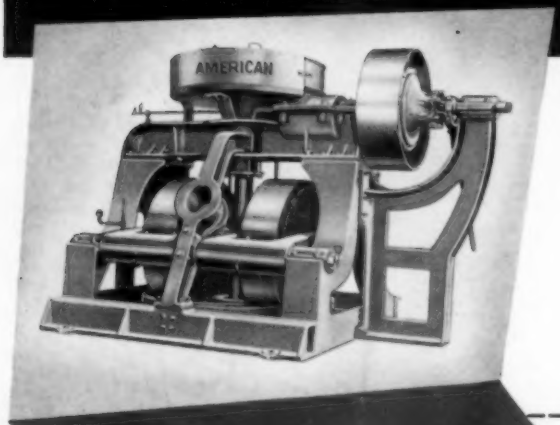

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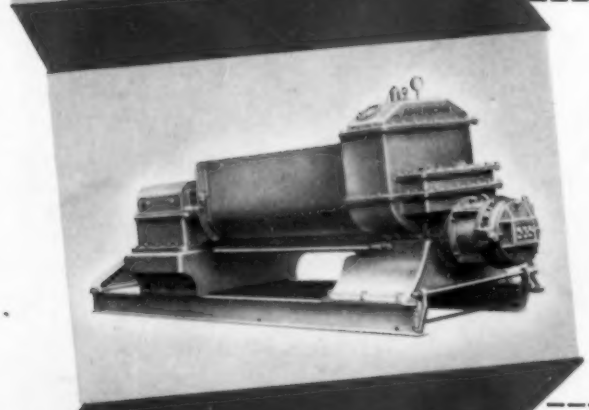

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